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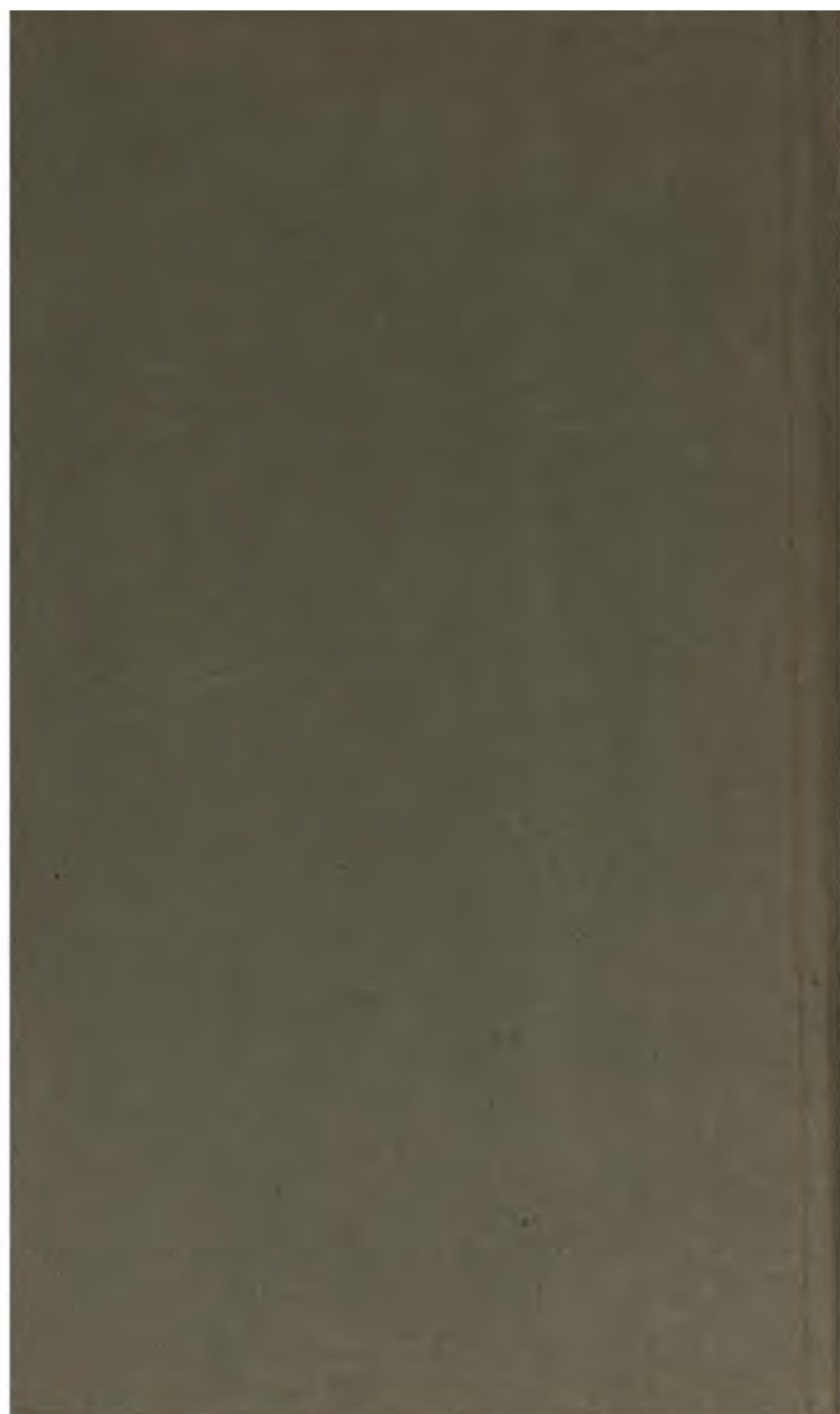
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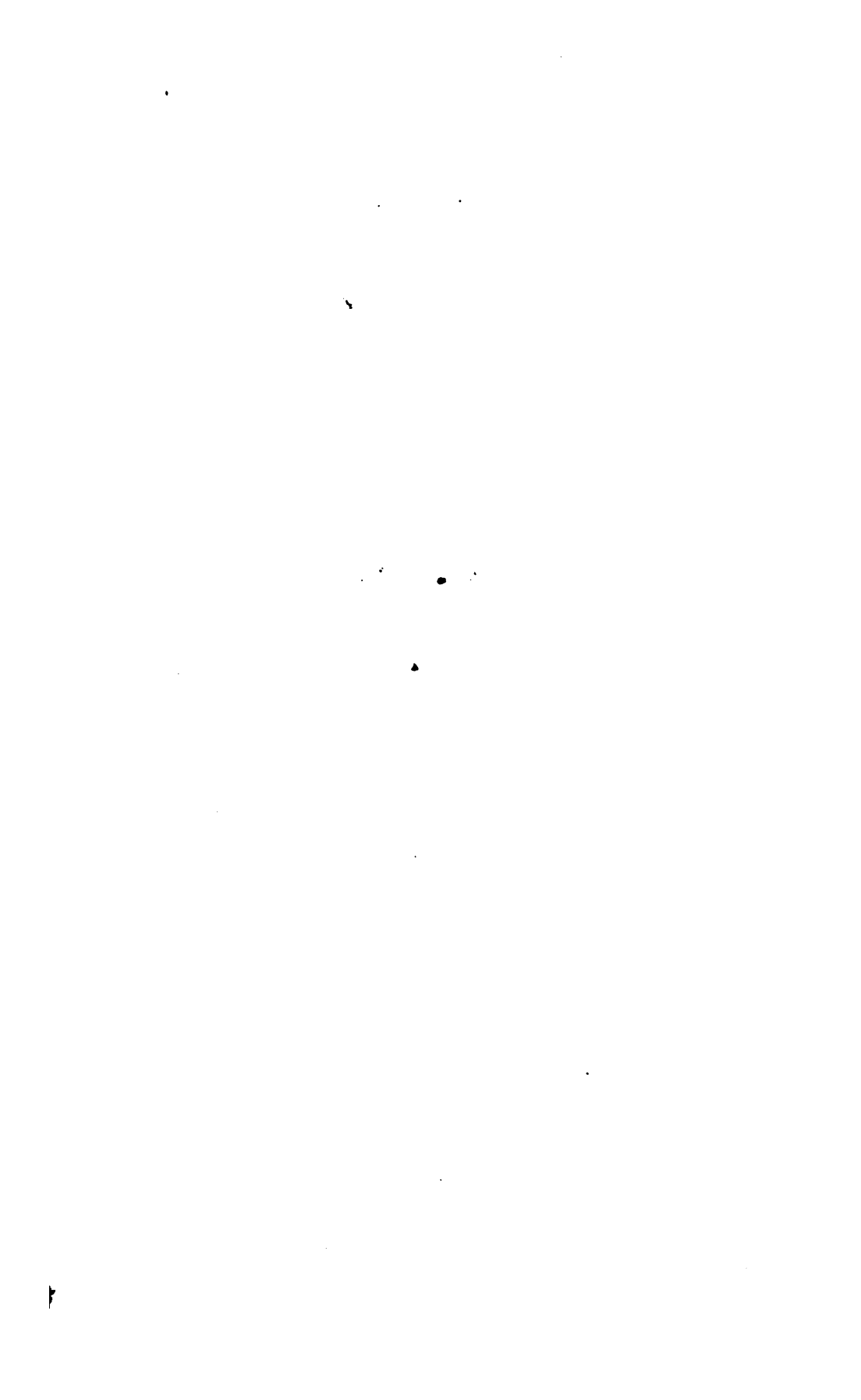


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Great Britain
ONS





THE
NAUTICAL ALMANAC
AND
ASTRONOMICAL EPHEMERIS
FOR THE YEAR
1841.

PUBLISHED BY ORDER OF
THE LORDS COMMISSIONERS OF THE ADMIRALTY.

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CONTENTS,

ALPHABETICALLY ARRANGED.

* * *The large Roman Numerals indicate the Page of each Month;
e small, the Page of the Preface; and the Arabic, the Page of the Book.*

	Pages
viations and Symbols	xiv
lar, Principal Articles of the	xiii
Ephemeris of	355 to 357
for Opposition	358 to 359
urations of the Satellites of Jupiter	XIX
f the Year	XXII
es of Jupiter's Satellites	XX
the Sun and Moon	535 to 538
ion of Time	I and II
the Equinoctial Points	266
octial Time	XXII
	xv
ation of the Articles, &c.	567 to 595
als and Anniversaries	xiii
on of the Year	XXII
ian, Ephemeris of the	408 to 431
Ephemeris of	345 to 347
for Opposition	348 to 349
r, Ephemeris of	360 to 383
r's Satellites, Configurations of	XIX
Eclipses of	XX
Occultations, &c., of	XXI
Terms and Returns	xiv
Distances	XIII to XVIII
Correction for Second Difference of	554
Ephemeris of	316 to 339
Phases of	544
Opposition of	545 to 549
Time of Transit of the first point of Aries	XXII
ry, Ephemeris of	268 to 291
Culminating Stars	480 to 520
Ephemeris of the	III to XII
Meridian Ephemeris of the	480
Phases of the, Apogee and Perigee	

	Pages
Moon, Libration of the - - - - -	544
— Mean Longitude of Node of the - - - - -	266
— Eclipses of the - - - - -	535 to 538
Obliquity of the Ecliptic - - - - -	266
Observatories, Latitude and Longitude of the Principal - - - - -	562 to 566
Occultations of Stars by the Moon, visible at Greenwich - - - - -	521 to 523
— Elements for computing - - - - -	524 to 534
— of Jupiter's Satellites by Jupiter - - - - -	XXI
Pallas, Ephemeris of - - - - -	350 to 352
— for Opposition - - - - -	353 to 354
Phenomena - - - - -	535 to 543
Pole Star, Tables to find the Latitude by - - - - -	555 to 557
Stars, Mean Places of, for 1841 - - - - -	432 to 434
— Apparent Places of, for 1841 - - - - -	438 to 477
— Constants, for Reduction of - - - - -	436 to 437
— Logarithms of A, B, C, D, for Reduction of - - - - -	XXII
— Formulæ, for Reduction of - - - - -	435
— Correction of, for 2 ζ - - - - -	478 to 479
— Ephemeris of, for Opposition of Mars - - - - -	545 to 549
Saturn, Ephemeris of - - - - -	384 to 407
— Ring of - - - - -	543
Sidereal Time at Mean Noon - - - - -	II
Sun, Ephemeris of the - - - - -	I to III
— Eclipses of the - - - - -	535 to 538
— Aberration of the - - - - -	266
— Parallax of the - - - - -	266
Terms, Law and University - - - - -	xiv
Tides - - - - -	550 to 553
Time Equivalents, Tables of - - - - -	558 to 561
Transits of Jupiter's Satellites and their Shadows - - - - -	XXI
University Terms - - - - -	xiv
Venus, Ephemeris of - - - - -	292 to 315
— Phases of - - - - -	544
Vesta, Ephemeris of - - - - -	340 to 342
— for Opposition - - - - -	343 to 344

P R E F A C E.

THE Contents of the NAUTICAL ALMANAC and ASTRONOMICAL EPHEMERIS for the year 1841 are the same generally as those of the preceding year.

THE Sun's Longitude from the *Mean* Equinox, the Latitude, and the Earth's Radius Vector have been deduced from the New Tables appended to *Effemeridi Astronomiche di Milano per l'Anno 1833*, (Milano, 1832), using a difference of Meridians = $36^m 45^s$.

The Perturbations of Longitude and Radius Vector produced by each of the Planets, Venus, Mars, Jupiter, and Saturn, have been computed accurately from the Tables for every 10th day of the year; the Sums then interpolated with second differences for every 5th day and thence the daily perturbations by simple proportion. The other parts of the calculations have been performed independently for every Mean Noon.

The Latitude of the Sun, depending on the attraction of the Moon, was computed for every day, and that part depending upon the Planets, Venus and Jupiter, was obtained for each tenth day and interpolated.

The Nutations of the Obliquity of the Ecliptic (Δw) and of Longitude (ΔL), have been derived from MS. Tables, constructed by Mr. James Epps, Assistant Secretary of the Royal Astronomical Society, according to the following formulæ:

$$\Delta w = 9'' \cdot 2500 \cos \Omega - 0'' \cdot 0903 \cos 2 \Omega + 0'' \cdot 0900 \cos 2 \mathfrak{D} + 0'' \cdot 5447 \cos 2 \odot$$

$$\Delta L = -17'' \cdot 2985 \sin \Omega + 0'' \cdot 2082 \sin 2 \Omega - 0'' \cdot 2074 \sin 2 \mathfrak{D} - 1'' \cdot 2550 \sin 2 \odot$$

where Ω is the Mean Longitude of the Moon's ascending Node, \mathfrak{D} the true Longitude of the Moon, and \odot the true Longitude of the Sun, (*Ast. Soc. Cat.*, pages xiv and xv.)

The Mean Obliquity of the Ecliptic has been taken = $23^\circ 27' 36'' \cdot 06$, on January 1, 1841, and the Mean Annual diminution = $0'' \cdot 457$. (*BESSEL's Tab. Reg.* page 9.)

The Sun's Right Ascension and Declination were computed independently for every Mean Noon.

The Semidiameter of the Sun, at the Earth's Mean Distance, has been taken = $16' 0'' \cdot 9$, as determined by BESSEL from 1698 transits, in which both limbs had been observed at Königsberg, between the Years 1820 and 1828, with REICHENBACH's meridian circle. (*BESSEL's Tab. Reg.* page L.)

The Equatorial Horizontal Parallax of the Sun, at the Earth's Mean Distance, has been taken = $8'' \cdot 5776$, as deduced by Professor ENCKE, from the Transits of Venus, in 1761 and 1769. (*Der Venusdurchgang von 1769*, &c. Gotha, 1824. page 108.)

The Constant of Aberration = $20'' \cdot 36$. (Preface to *Ast. Soc. Cat.* page x.)

The Sidereal Time at Mean Noon = $\frac{\text{Sun's Mean Longitude} + \text{Nutation}}{15}$

According to Professor BESSEL (*Tab. Reg.* page XXIV), the Mean Longitude of the Sun, at Paris Mean Noon of January 0^d of the year 1800 + t , is

$$279^{\circ} 54' 1'' 36 + t. 27'' 605844 + t^2. 0'' 0001221805 - f. 14' 47'' 083$$

where f denotes, for the 19th century, the number of years from the preceding bissextile year. Assuming the Meridian of Greenwich to be $9^m 21^s 5$ West of that of Paris, and altering the epoch to the Mean Noon of January 1 of the year 1800 + t , the Sun's Mean Longitude (M) for the meridian of Greenwich is hence found equal to

$$280^{\circ} 53' 32'' 75 + t. 27'' 605844 + t^2. 0'' 0001221805 - f. 14' 47'' 083,$$

and we have, for the Mean Noon of any day (n) of the year 1800 + t ,

$$\text{Sidereal Time} = \frac{M}{15} + n. 3^m 56^s 555348 + \text{Nutation in R. A.}$$

The Longitude of the Moon from the *Mean Equinox*, the Latitude, Horizontal Parallax and Semidiameter have been derived from BURCKHARDT'S *Tables de la Lune* (Paris, 1812), using a difference of Meridians = $9^m 21^s$: They have been computed independently and in duplicate for every Mean Noon and Midnight of the Year; and second differences have been taken into account wherever the irregular variation of the Equations rendered such a correction appreciable. The Longitude being reduced to the True Equinox, each set of results has then been differenced to the fourth order, compared and carefully examined. Wherever the progression of the fourth differences indicated a probable error of $0'' 7$ or more, the original computations have been examined.

The Right Ascension and Declination have been computed for each noon and midnight, examined by means of differences to the fourth order, and interpolated for every hour. From these have been deduced the Right Ascension and Declination at Transit, on each day of the year.

The Places of Mercury, Venus, and Mars, from the *Mean Equinox*, have been derived from LINDENAU'S *Tables**, assuming Greenwich to be $42^m 56^s$ West of Seeberg; and those of Jupiter, Saturn, and the Georgian, from BOUVARD'S new *Tables*,† with a difference of meridians = $9^m 21^s 5$.

For Mercury, the Perturbations were obtained immediately from the *Tables* for

* *Investigatio nova Orbitæ a Mercurio circa Solem descriptæ, accedunt Tabulæ Planetæ ex Elementis recens repertis et Theoria Gravitatis Illust. De Laplace constructæ. Auctore BERNHARDO DE LINDENAU. Gothæ, 1813. 4to.*

Tabulæ Veneris novæ et correctæ ex Theoria Gravitatis clarissimi De Laplace et ex Observationibus recentissimis in specula Astronomica Seebergensi habitis erutæ. Auctore BERNHARDO DE LINDENAU. Gothæ, 1810. 4to.

Tabulæ Martis novæ et correctæ ex Theoria Gravitatis clarissimi De Laplace et ex Observationibus recentissimis erutæ. Auctore BERNHARDO DE LINDENAU. Eisenberg, 1811. 4to.

† *Tables Astronomiques publiées par le Bureau des Longitudes de France, contenant les Tables de Jupiter, de Saturne et d'Uranus, construites d'après la Théorie de la Mécanique Céleste: par M. A. BOUVARD. Paris, 1821. 4to.*

each alternate Mean Noon and interpolated with first differences: the remainder of the calculations were performed independently for every Mean Noon.

For Venus, the Heliocentric Longitude from the *Mean Equinox*, Latitude and Radius Vector, were computed independently for Mean Noon of every eighth day, then interpolated with fourth differences for each day, and the Longitude reduced to the *True Equinox*. The Geocentric places were computed for every fourth day, and the intermediate values obtained by interpolating with fourth differences.

For Mars, the Heliocentric Longitude from the *Mean Equinox*, Latitude and Radius Vector, were obtained independently for Mean Noon of every twelfth day, and interpolated with fourth differences for each day, previously to the application of Nutation. The Geocentric places were computed for every fourth day, and interpolated with fourth differences.

For Jupiter, Saturn, and the Georgian, the Heliocentric Longitude from the *Mean Equinox*, Latitude and Radius Vector, were computed directly from the Tables for Mean Noon at intervals of thirty days; and interpolated, for each day, with second differences, previously to the application of Nutation. The Geocentric places were obtained independently for every sixth day, and interpolated for every day, using differences to the fourth order.

For the Minor Planets, with the Elements of the Orbits of Vesta, Pallas, and Ceres given at page viii of the NAUTICAL ALMANAC for 1840, and of Juno at page viii of the NAUTICAL ALMANAC for 1839, the Heliocentric Longitudes have been first computed and the periods of the next Oppositions ascertained approximately. Vesta, Juno, Pallas, and Ceres, are all in opposition in the year 1841. For each of these Planets the Variations of the Elements, caused by Venus, the Earth, Mars, Jupiter, and Saturn, have been computed for intervals of twelve days, for the whole period between the Oppositions, agreeably to the method described in Professor AIRY's paper, "*On the Calculation of the Perturbations of the Small Planets and the Comets of short period.*"—(APPENDIX to NAUTICAL ALMANAC, 1837, page 149).

For the Perturbations, the following masses of the disturbing Planets have been used: viz.—

Venus	$\frac{1}{401211}$	(AIRY, <i>On the corrections in the Elements of Delambre's Solar Tables, &c.</i> — <i>Phil. Trans.</i> , 1828, page 30).
Earth	$\frac{1}{354936}$	(<i>Système du Monde</i> , 5th Edition, page 209).
Mars	$\frac{1}{2680337}$	(BURCKHARDT, <i>Conn. des Temps</i> , 1831, page 153).
Jupiter	$\frac{1}{104870}$	(AIRY, <i>Mem. Ast. Soc.</i> , vol. vi. page 97).
Saturn	$\frac{1}{3512}$	(<i>Système du Monde</i> , 5th Edition, page 209).

The following are the resulting Elements:—

I. VESTA.

Epoch, 1841, October 25⁰ Mean Time at Greenwich.

Mean Longitude of ♃	- - - ϵ	- - - 22 19 40 ⁰ 8 ¹	} From Mean Equinox of Oct. 25, 1841.
Longitude of the Perihelion	ϖ	- - - 250 6 4 ⁰ 6 ¹	
Longitude of Ascending Node	ν	- - - 103 23 4 ⁰ 2 ¹	
Inclination of the Orbit	i	- - - 7 8 20 ⁰ 2 ¹	
Angle of Excentricity	ϕ	- - - 5 3 6 ⁰ 4 ¹	
Mean daily Sidereal Motion	n	- - - 977 ⁰ 66044	

8 1841, October 21, 15^h 21^m 0 Mean Time at Greenwich.

II. JUNO.

Epoch, 1841, March 21⁰ Mean Time at Greenwich.

Mean Longitude of ♄	- - - ϵ	- - - 152 38 12 ⁰ 0 ¹	} From Mean Equinox of March 21, 1841.
Longitude of the Perihelion	ϖ	- - - 54 12 54 ⁰ 9 ¹	
Longitude of Ascending Node	ν	- - - 170 56 51 ⁰ 2 ¹	
Inclination of the Orbit	i	- - - 13 2 34 ⁰ 9 ¹	
Angle of Excentricity	ϕ	- - - 14 51 41 ⁰ 1 ¹	
Mean daily Sidereal Motion	n	- - - 814 ⁰ 29849	

8 1841, March 19, 2^h 44^m 8 Mean Time at Greenwich.

III. PALLAS.

Epoch, 1841, September 7⁰ Mean Time at Greenwich.

Mean Longitude of ♃	- - - ϵ	- - - 359 59 1 ⁰ 5 ¹	} From Mean Equinox of Sept. 7, 1841.
Longitude of the Perihelion	ϖ	- - - 121 33 54 ⁰ 9 ¹	
Longitude of Ascending Node	ν	- - - 172 39 38 ⁰ 1 ¹	
Inclination of the Orbit	i	- - - 34 37 52 ⁰ 0 ¹	
Angle of Excentricity	ϕ	- - - 13 52 50 ⁰ 8 ¹	
Mean daily Sidereal Motion	n	- - - 768 ⁰ 95750	

8 1841, September 4, 5^h 33^m 9 Mean Time at Greenwich.

IV. CERES.

Epoch, 1841, October 13⁰ Mean Time at Greenwich.

Mean Longitude of ♄	- - - ϵ	- - - 26 52 29 ⁰ 9 ¹	} From Mean Equinox, of Oct. 13, 1841.
Longitude of the Perihelion	ϖ	- - - 148 57 27 ⁰ 5 ¹	
Longitude of Ascending Node	ν	- - - 80 46 6 ⁰ 8 ¹	
Inclination of the Orbit	i	- - - 10 37 8 ⁰ 4 ¹	
Angle of Excentricity	ϕ	- - - 4 34 26 ⁰ 4 ¹	
Mean daily Sidereal Motion	n	- - - 771 ⁰ 25446	

8 1841, October 12, 23^h 21^m 9 Mean Time at Greenwich.

With these Elements and their Variations for intervals of twelve days preceding and following their respective Epochs, the Places of these Planets at Mean Noon for the month preceding and following their Oppositions were obtained.

The Approximate Ephemerides of Vesta, Pallas, and Ceres, were deduced from the Elements of 1840, and that of Juno from the Elements of 1839, to the Epochs of the new Elements respectively, after which the new Elements were used for the remainder of the year.

The Semidiameters of the Planets, at the Mean Distance of the Earth from the Sun have been adopted as follow :

Mercury, Eq. Sem.	3 ^h 23 ^m	(Lindenau's <i>Tables of Mercury</i> , page 38)
Venus, Eq. Sem.	8 ^h 25 ^m	(Delambre's <i>Astronomy</i> , vol. ii. page 620)
Mars, Eq. Sem.	4 ^h 43 ^m 5 ^s	(Littrow's <i>Astronomy</i> , vol. ii. page 389)
Jupiter, Eq. Sem.	99 ^h 70 ^m 4 ^s	(<i>Mem. Ast. Soc.</i> , vol. iii. page 301)
Saturn, Eq. Sem.	81 ^h 10 ^m 6 ^s	(<i>Ast. Nach.</i> N ^o 189)
Georgian, Eq. Sem.	37 ^h 25 ^m	(Delambre's <i>Astronomy</i> , vol. ii. page 620)

The Ephemeris of each of the Planets, Mercury, Venus, Mars, Jupiter, Saturn, and the Georgian, at the Time of Transit, has been computed for each day of the Year from their Places at Mean Noon. That of each of the Minor Planets, for one month preceding and following their respective Oppositions, from the accurate Noon Ephemeris.

The Eclipses of Jupiter's Satellites have been computed, in duplicate, from "*Tables Écliptiques des Satellites de Jupiter, d'après la théorie de leurs attractions mutuelles et les constantes déduites des Observations.* Par le Baron Damoiseau. Publiées par le Bureau des Longitudes. Paris, 1836," using 9^m 21^s 5 for the difference of meridians.

For the Configurations and Occultations of the Satellites, as well as the Transits of the Satellites and their Shadows over the disc of the Planet, Mr. WOOLHOUSE's Tables in the APPENDIX to the NAUTICAL ALMANAC for 1835 have been used, with the exception of Table II. of each Satellite, which has been reconstructed to adapt it to Damoiseau's New Tables.

As Jupiter's Fourth Satellite will neither be eclipsed nor occulted during the year 1841, it has been omitted in pages XX. and XXI. of each month.

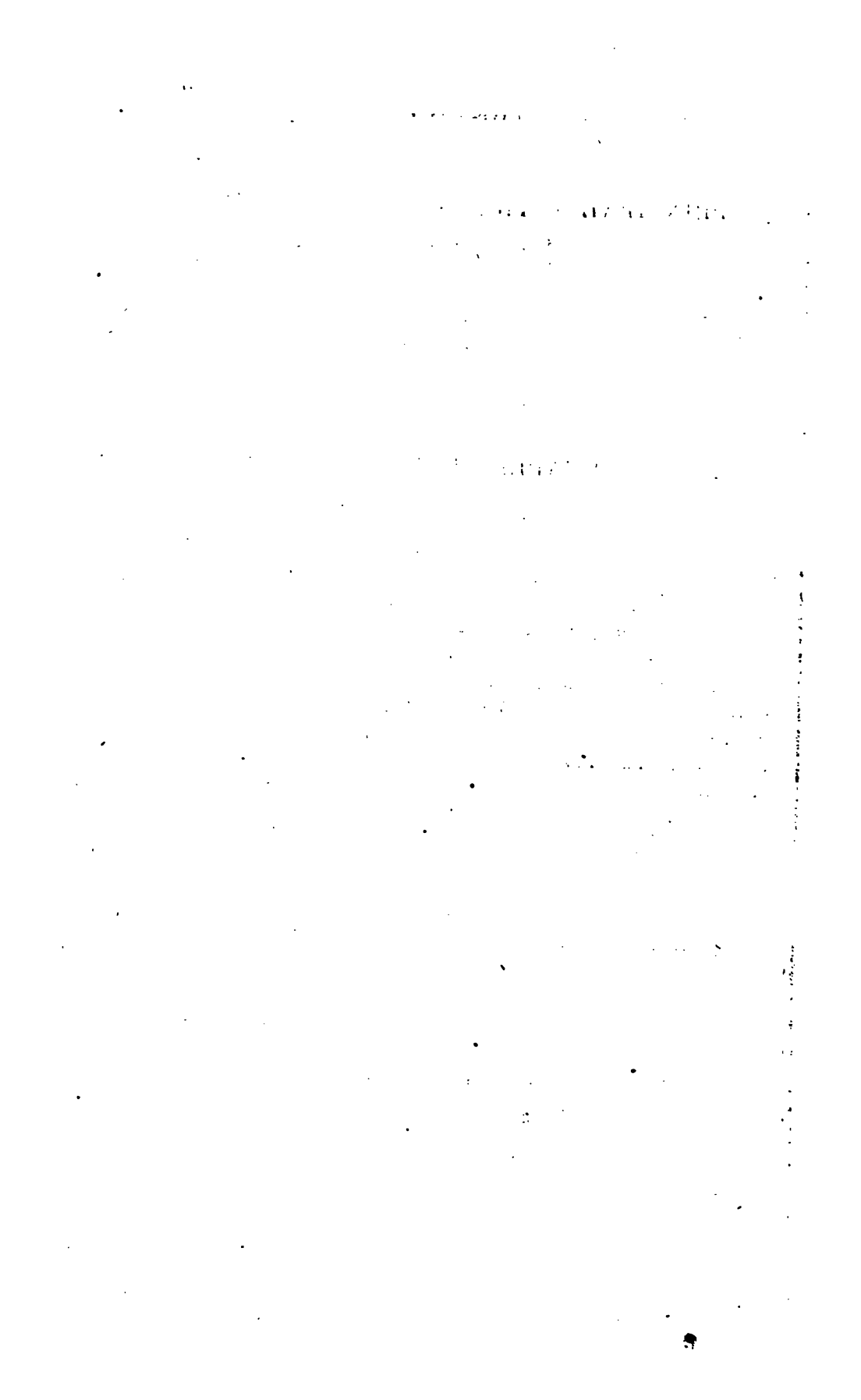
The Elements at page 543, for determining the appearance of Saturn's Ring, have been calculated by means of the corrected formulæ* at page viii of the NAUTICAL ALMANAC for 1836, adopting BESSEL's later determinations of the val of Ω , i and a' , viz. :—

$$\left. \begin{aligned} \Omega &= 166^{\circ} 53' 8'' \cdot 9 + 46'' \cdot 462 (t - 1800) \\ i &= 28^{\circ} 10' 44'' \cdot 7 - 0'' \cdot 350 (t - 1800) \\ a' &= 39'' \cdot 308 \end{aligned} \right\} \text{Ast. Nach.,}$$

(*Ast. Nach.*, No. 275, col. 170),

the mean distance of the Planet from the Sun being taken = 9^h

* See Errata in the NAUTICAL ALMANAC for 1840, page xi



PRINCIPAL ARTICLES OF THE CALENDAR,

For the Year 1841.

Golden Number	- - - - 18	Dominical Letter	- - - - C
Epact	- - - - 7	Roman Indiction	- - - - 14
Solar Cycle	- - - - 2	Julian Period	- - - - 6554

FIXED AND MOVEABLE FESTIVALS, ANNIVERSARIES, &c., &c.

Epiphany	- - - - Jan. 6	Birth of Q. Victoria	- - - May 24
Martyrdom of K. Charles I.	- - - 30	Restoration of K. Charles II.	- - - 29
Septuagesima Sunday	- - - Feb. 7	Pentecost—Whit Sunday	- - - 30
Quinquagesima—Shrove Sunday	- 21	Trinity Sunday	- - - June 6
Ash Wednesday	- - - - 21	Corpus Christi	- - - - 10
Quadragesima—1st Sunday in Lent	28	Accession of Q. Victoria	- - - - 20
St. David	- - - - Mar. 1	Proclamation	- - - - 21
St. Patrick	- - - - 17	St. John Bapt.—Midsum. Day	- - - 24
Annunciation—Lady Day	- - - 25	Birth of Dowager Q. Adelaide	Aug. 13
Palm Sunday	- - - - Apr. 4	St. Michael—Michaelmas Day	Sept. 29
Good Friday	- - - - 9	Gunpowder Plot	- - - Nov. 5
EASTER SUNDAY	- - - - 11	1st Sunday in Advent	- - - - 28
Low Sunday	- - - - 18	St. Andrew	- - - - 30
St. George	- - - - 23	St. Thomas	- - - Dec. 21
Rogation Sunday	- - - May 16	Christmas Day	- - - - 25
Ascension Day—Holy Thursday	- 20		

The Year 5602 of the Jewish Era commences on S

The Year 1257 of the Mohammedan Era commences

Ramadan (Month of Abstinence observed by the

October 17, 1841.

ERRATA.

(Continued from page xv of the *Nautical Almanac* for 1840.)

I.—NAUTICAL ALMANAC FOR THE YEAR 1838.

age 437, Sept. 4. Declination. for $7^{\circ} 31'$ read S. $7^{\circ} 31'$
 — $3^{\circ} 47'$ — S. $3^{\circ} 47'$
 — $3^{\circ} 56'$ — S. $3^{\circ} 56'$

II.—NAUTICAL ALMANAC FOR THE YEAR 1840.

age 451, μ Geminorum. Diff. of R.A. Dec. 26 and 36. for $0^{\circ} 01'$ read $0^{\circ} 10'$
 456, θ Ursæ Majoris. Declination. Dec. 36 for $40^{\circ} 1'$ read $41^{\circ} 1'$
 Diff. of Declination. — $0^{\circ} 4'$ — $0^{\circ} 6'$

III.—NAUTICAL ALMANAC FOR THE YEAR 1841.

age 17, January 12, Jupiter. P.L. of diff. at XVIII^b for 2622 read 2722
 — ——— 16, for Spica $\text{m}\eta$ E. read Spica $\text{m}\eta$ W.



E P H E M E R I S
FOR THE YEAR
1841,
FOR THE MERIDIAN
OF THE
ROYAL OBSERVATORY AT GREENWICH.

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Diff. for 1 hour.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.			
		^h ^m ^s	^s	^o ['] ["]	["]	^m ^s	^m ^s	^s
Frid.	1	18 47 50.46	11.033	S. 23 0 21.0	13.20	1 10.98	3 58.61	1.17
Sat.	2	18 52 15.25	11.017	22 55 4.3	14.34	1 10.93	4 26.77	1.15
Sun.	3	18 56 39.66	11.000	22 49 20.2	15.46	1 10.88	4 54.55	1.14
Mon.	4	19 1 3.66	10.982	22 43 9.1	16.59	1 10.83	5 21.91	1.12
Tues.	5	19 5 27.23	10.963	22 36 30.9	17.70	1 10.77	5 48.84	1.10
Wed.	6	19 9 50.34	10.943	22 29 26.0	18.81	1 10.71	6 15.31	1.08
Thur.	7	19 14 12.96	10.921	22 21 54.5	19.91	1 10.64	6 41.30	1.06
Frid.	8	19 18 35.07	10.899	22 13 56.7	21.00	1 10.57	7 6.78	1.04
Sat.	9	19 22 56.65	10.876	22 5 32.7	22.08	1 10.50	7 31.74	1.01
Sun.	10	19 27 17.68	10.852	21 56 42.8	23.15	1 10.42	7 56.14	0.99
Mon.	11	19 31 38.14	10.828	21 47 27.3	24.21	1 10.34	8 19.98	0.96
Tues.	12	19 35 58.02	10.803	21 37 46.2	25.26	1 10.26	8 43.23	0.94
Wed.	13	19 40 17.28	10.777	21 27 40.0	26.30	1 10.17	9 5.88	0.91
Thur.	14	19 44 35.92	10.749	21 17 8.9	27.32	1 10.08	9 27.90	0.89
Frid.	15	19 48 53.90	10.721	21 6 13.3	28.34	1 9.99	9 49.27	0.86
Sat.	16	19 53 11.23	10.693	20 54 53.3	29.33	1 9.90	10 9.98	0.83
Sun.	17	19 57 27.87	10.664	20 43 9.4	30.32	1 9.80	10 30.00	0.80
Mon.	18	20 1 43.81	10.634	20 31 1.8	31.29	1 9.70	10 49.33	0.77
Tues.	19	20 5 59.02	10.603	20 18 30.9	32.25	1 9.60	11 7.94	0.74
Wed.	20	20 10 13.50	10.572	20 5 37.0	33.19	1 9.50	11 25.82	0.71
Thur.	21	20 14 27.23	10.540	19 52 20.5	34.11	1 9.39	11 42.94	0.68
Frid.	22	20 18 40.18	10.507	19 38 41.8	35.02	1 9.29	11 59.29	0.64
Sat.	23	20 22 52.35	10.474	19 24 41.3	35.92	1 9.18	12 14.86	0.61
Sun.	24	20 27 3.73	10.440	19 10 19.2	36.79	1 9.07	12 29.64	0.58
Mon.	25	20 31 14.29	10.406	18 55 36.2	37.66	1 8.96	12 43.61	0.54
Tues.	26	20 35 24.03	10.372	18 40 32.4	38.50	1 8.85	12 56.75	0.51
Wed.	27	20 39 32.95	10.337	18 25 8.5	39.33	1 8.74	13 9.07	0.47
Thur.	28	20 43 41.03	10.302	18 9 24.6	40.14	1 8.62	13 20.57	0.44
Frid.	29	20 47 48.28	10.266	17 53 21.3	40.93	1 8.51	13 31.23	0.40
Sat.	30	20 51 54.67	10.231	17 36 59.0	41.70	1 8.40	13 41.04	0.37
Sun.	31	20 56 0.22	10.196	17 20 18.1	42.46	1 8.28	13 50.01	0.33
Mon.	32	21 0 4.93		S. 17 3 19.0		1 8.17	13 58.14	

* Mean Time of the Semidiameter passing may be found by subtracting 0^m.19 from the Sidereal Time

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
Frid.	1	18 47 49.72	S. 23 0 21.8	16 17.3	3 58.52	18 43 51.20
Sat.	2	18 52 14.43	22 55 5.3	16 17.3	4 26.68	18 47 47.76
Sun.	3	18 56 38.76	22 49 21.5	16 17.3	4 54.45	18 51 44.31
Mon.	4	19 1 2.68	22 43 10.5	16 17.3	5 21.80	18 55 40.87
Tues.	5	19 5 26.17	22 36 32.6	16 17.3	5 48.73	18 59 37.44
Wed.	6	19 9 49.20	22 29 27.9	16 17.3	6 15.20	19 3 34.00
Thur.	7	19 14 11.74	22 21 56.7	16 17.2	6 41.18	19 7 30.56
Frid.	8	19 18 33.77	22 13 59.1	16 17.2	7 6.66	19 11 27.12
Sat.	9	19 22 55.28	22 5 35.4	16 17.2	7 31.61	19 15 23.68
Sun.	10	19 27 16.25	21 56 45.8	16 17.1	7 56.01	19 19 20.23
Mon.	11	19 31 36.64	21 47 30.6	16 17.1	8 19.85	19 23 16.79
Tues.	12	19 35 56.45	21 37 49.8	16 17.0	8 43.10	19 27 13.35
Wed.	13	19 40 15.65	21 27 43.9	16 16.9	9 5.74	19 31 9.91
Thur.	14	19 44 34.22	21 17 13.2	16 16.8	9 27.76	19 35 6.47
Frid.	15	19 48 52.15	21 6 17.9	16 16.8	9 49.12	19 39 3.02
Sat.	16	19 53 9.42	20 54 58.2	16 16.7	10 9.83	19 42 59.58
Sun.	17	19 57 26.00	20 43 14.6	16 16.6	10 29.86	19 46 56.14
Mon.	18	20 1 41.89	20 31 7.3	16 16.5	10 49.19	19 50 52.70
Tues.	19	20 5 57.06	20 18 36.8	16 16.4	11 7.80	19 54 49.25
Wed.	20	20 10 11.49	20 5 43.2	16 16.3	11 25.68	19 58 45.81
Thur.	21	20 14 25.17	19 52 27.1	16 16.2	11 42.80	20 2 42.37
Frid.	22	20 18 38.08	19 38 48.7	16 16.1	11 59.16	20 6 38.93
Sat.	23	20 22 50.21	19 24 48.5	16 16.0	12 14.73	20 10 35.48
Sun.	24	20 27 1.55	19 10 26.8	16 15.9	12 29.51	20 14 32.04
Mon.	25	20 31 12.08	18 55 44.0	16 15.7	12 43.49	20 18 28.60
Tues.	26	20 35 21.79	18 40 40.7	16 15.6	12 56.64	20 22 25.15
Wed.	27	20 39 30.68	18 25 17.0	16 15.5	13 8.97	20 26 21.71
Thur.	28	20 43 38.74	18 9 33.4	16 15.4	13 20.47	20 30 18.27
Frid.	29	20 47 45.96	17 53 30.5	16 15.3	13 31.13	20 34 14.82
Sat.	30	20 51 52.33	17 37 8.5	16 15.1	13 40.95	20 38 11.38
Sun.	31	20 55 57.87	17 20 27.8	16 15.0	13 49.93	20 42 7.9
Mon.	32	21 0 2.56	S. 17 3 29.0	16 14.8	13 58.06	20 46 4

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	280° 59' 37".5	N. 0° 79'	9.9926385	15' 41".6	15' 49".1	57' 35".4	58' 3".0
2	282 0 47.2	0 83	9.9926389	15 56.8	16 4.4	58 31.1	58 59.0
3	283 1 56.6	0 85	9.9926418	16 11.8	16 18.9	59 26.4	59 52.3
4	284 3 5.6	0 84	9.9926474	16 25.4	16 31.2	60 16.3	60 37.4
5	285 4 14.4	0 80	9.9926557	16 36.1	16 39.9	60 55.3	61 9.2
6	286 5 22.8	0 72	9.9926669	16 42.4	16 43.7	61 18.7	61 23.1
7	287 6 30.9	0 62	9.9926809	16 43.5	16 42.0	61 22.6	61 17.0
8	288 7 38.7	0 51	9.9926978	16 39.1	16 35.0	61 6.6	60 51.5
9	289 8 46.3	0 38	9.9927175	16 29.9	16 23.7	60 32.5	60 9.9
10	290 9 53.6	0 25	9.9927400	16 16.8	16 9.2	59 44.4	59 16.8
11	291 11 0.7	N. 0° 11'	9.9927653	16 1.4	15 53.3	58 48.0	58 18.5
12	292 12 7.6	S. 0° 01'	9.9927932	15 45.3	15 37.4	57 48.9	57 19.9
13	293 13 14.3	0 12	9.9928236	15 29.7	15 22.6	56 51.9	56 25.5
14	294 14 20.8	0 21	9.9928564	15 15.9	15 9.7	56 1.0	55 38.3
15	295 15 27.0	0 27	9.9928916	15 4.2	14 59.3	55 18.0	55 0.2
16	296 16 33.0	0 30	9.9929288	14 55.0	14 51.4	54 44.5	54 31.1
17	297 17 38.6	0 30	9.9929680	14 48.4	14 45.9	54 20.1	54 11.1
18	298 18 43.9	0 28	9.9930091	14 44.2	14 42.8	54 4.6	53 59.8
19	299 19 48.7	0 22	9.9930519	14 42.1	14 41.7	53 56.9	53 55.6
20	300 20 53.0	0 13	9.9930964	14 41.8	14 42.3	53 55.9	53 57.8
21	301 21 56.6	S. 0° 02'	9.9931425	14 43.2	14 44.5	54 1.1	54 5.7
22	302 22 59.5	N. 0° 10'	9.9931901	14 46.0	14 47.9	54 11.4	54 18.3
23	303 24 1.6	0 22	9.9932392	14 50.0	14 52.5	54 26.2	54 35.1
24	304 25 2.8	0 36	9.9932898	14 55.2	14 58.3	54 45.3	54 56.5
25	305 26 2.9	0 49	9.9933418	15 1.6	15 5.2	55 8.7	55 22.0
26	306 27 1.9	0 60	9.9933953	15 9.2	15 13.4	55 36.6	55 52.1
27	307 27 59.8	0 70	9.9934505	15 18.0	15 22.9	56 8.9	56 26.8
28	308 28 56.5	0 78	9.9935075	15 28.2	15 33.7	56 46.1	57 6.4
29	309 29 51.9	0 83	9.9935663	15 39.5	15 45.5	57 27.6	57 49.6
30	310 30 45.9	0 85	9.9936270	15 51.6	15 57.9	58 12.2	58 35.2
31	311 31 38.6	0 84	9.9936897	16 4.1	16 10.1	58 57.8	59 20.0
32	312 32 29.8	N. 0° 80'	9.9937545	16 15.9	16 21.2	59 41.2	60 0.6

MEAN TIME.

Day of the Week.	Day of the Month.	THE MOON'S					
		Longitude.		Latitude.		Age.	Meridian
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.
Frid.	1	17° 42' 53" 8	24° 28' 4" 9	N. 4° 27' 22" 5	N. 4° 44' 21" 4	8° 6'	6° 26' 8"
Sat.	2	31 20 11 3	38 19 20 5	4 57 33 9	5 6 37 6	9° 6'	7° 17' 0"
Sun.	3	45 25 31 5	52 38 30 7	5 11 9 8	5 10 53 5	10° 6'	8° 12' 5"
Mon.	4	59 57 53 6	67 23 3 6	5 5 34 5	4 55 6 5	11° 6'	9° 13' 9"
Tues.	5	74 53 11 7	82 27 15 9	4 39 28 5	4 18 50 1	12° 6'	10° 20' 0"
Wed.	6	90 4 6 0	97 42 24 6	3 53 28 3	3 23 50 7	13° 6'	11° 27' 5"
Thur.	7	105 20 50 8	112 58 3 5	2 50 31 0	2 14 12 1	14° 6'	12° 32' 7"
Frid.	8	120 32 45 8	128 3 46 3	1 35 39 6	N. 0° 55' 43" 7	15° 6'	13° 33' 1"
Sat.	9	135 30 3 4	142 50 46 6	N. 0° 15' 12" 4	S. 0° 25' 4 9	16° 6'	14° 28' 1"
Sun.	10	150 5 16 3	157 13 6 5	S. 1° 4 26 2	1 42 11 4	17° 6'	15° 18' 3"
Mon.	11	164 14 1 9	171 7 57 3	2 17 48 0	2 50 48 1	18° 6'	16° 5 3"
Tues.	12	177 54 57 3	184 35 14 5	3 20 49 7	3 47 36 8	19° 6'	16° 50' 3"
Wed.	13	191 9 7 5	197 37 0 9	4 10 57 7	4 30 43 6	20° 6'	17° 34' 9"
Thur.	14	203 59 21 5	210 16 39 7	4 46 50 9	4 59 17 3	21° 6'	18° 20' 0"
Frid.	15	216 29 26 1	222 38 13 8	5 8 3 0	5 13 10 0	22° 6'	19° 6 4"
Sat.	16	228 43 34 5	234 45 59 8	5 14 42 1	5 12 43 3	23° 6'	19° 54' 7"
Sun.	17	240 45 59 5	246 44 2 9	5 7 19 4	4 58 37 3	24° 6'	20° 44' 6"
Mon.	18	252 40 37 0	258 36 7 2	4 46 43 5	4 31 47 7	25° 6'	21° 35' 5"
Tues.	19	264 30 56 3	270 25 26 5	4 13 58 3	3 53 26 9	26° 6'	22° 26' 4"
Wed.	20	276 19 56 6	282 14 45 4	3 30 24 5	3 5 4 8	27° 6'	23° 16' 1"
Thur.	21	288 10 8 6	294 6 21 7	2 37 41 7	2 8 31 1	28° 6'	♂
Frid.	22	300 3 38 9	306 2 13 2	1 37 49 8	S. 1° 5 56 3	29° 6'	0° 4 0"
Sat.	23	312 2 18 1	318 4 6 9	S. 0° 33' 9" 3	N. 0° 0 10 3	0° 8'	0° 49' 6"
Sun.	24	324 7 53 2	330 13 50 1	N. 0° 33' 42" 3	1 7 3 5	1° 8'	1° 33' 2"
Mon.	25	336 22 13 3	342 33 17 8	1 39 52 5	2 11 46 2	2° 8'	2° 15' 4"
Tues.	26	348 47 21 0	355 4 39 9	2 42 21 9	3 11 16 0	3° 8'	2° 57' 1"
Wed.	27	1 25 33 3	7 50 19 1	3 38 5 8	4 2 28 6	4° 8'	3° 39' 4"
Thur.	28	14 19 17 8	20 52 45 7	4 24 1 9	4 42 24 0	5° 8'	4° 23' 5"
Frid.	29	27 31 1 8	34 14 18 9	4 57 14 2	5 8 12 7	6° 8'	5° 10' 7"
Sat.	30	41 2 49 7	47 56 40 9	5 15 1 5	5 17 25 4	7° 8'	6° 2 3"
Sun.	31	54 55 55 8	62 0 29 9	5 15 11 3	5 8 10 8	8° 8'	6° 59' 0"
Mon.	32	69 10 13 1	76 24 44 8	N. 4° 56' 19" 3	N. 4° 39' 38" 5	9° 8'	8° 0 6"

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 1.				SUNDAY 3.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	0 58 23.56	N.11 4 21.7	143.23	0	2 45 20.07	N.21 25 48.1	108.18
1	1 0 26.78	11 18 41.1	142.88	1	2 47 46.27	21 36 37.2	106.98
2	1 2 30.36	11 32 58.4	142.53	2	2 50 13.02	21 47 19.1	105.75
3	1 4 34.32	11 47 13.6	142.17	3	2 52 40.33	21 57 53.6	104.53
4	1 6 38.65	12 1 26.6	141.77	4	2 55 8.19	22 8 20.8	103.27
5	1 8 43.38	12 15 37.2	141.37	5	2 57 36.61	22 18 40.4	101.98
6	1 10 48.49	12 29 45.4	140.97	6	3 0 5.58	22 28 52.3	100.68
7	1 12 53.99	12 43 51.2	140.52	7	3 2 35.12	22 38 56.4	99.35
8	1 14 59.90	12 57 54.3	140.08	8	3 5 5.20	22 48 52.5	98.00
9	1 17 6.21	13 11 54.8	139.62	9	3 7 35.84	22 58 40.5	96.65
10	1 19 12.94	13 25 52.5	139.15	10	3 10 7.03	23 8 20.4	95.25
11	1 21 20.08	13 39 47.4	138.65	11	3 12 38.77	23 17 51.9	93.85
12	1 23 27.64	13 53 39.3	138.15	12	3 15 11.05	23 27 15.0	92.42
13	1 25 35.63	14 7 28.2	137.62	13	3 17 43.89	23 36 29.5	90.95
14	1 27 44.05	14 21 13.9	137.08	14	3 20 17.27	23 45 35.2	89.48
15	1 29 52.91	14 34 56.4	136.53	15	3 22 51.20	23 54 32.1	87.98
16	1 32 2.21	14 48 35.6	135.97	16	3 25 25.66	24 3 20.0	86.45
17	1 34 11.97	15 2 11.4	135.37	17	3 28 0.66	24 11 58.7	84.93
18	1 36 22.18	15 15 43.6	134.77	18	3 30 36.20	24 20 28.3	83.37
19	1 38 32.84	15 29 12.2	134.17	19	3 33 12.27	24 28 48.5	81.78
20	1 40 43.97	15 42 37.2	133.52	20	3 35 48.86	24 36 59.2	80.18
21	1 42 55.57	15 55 58.3	132.87	21	3 38 25.98	24 45 0.3	78.57
22	1 45 7.64	16 9 15.5	132.18	22	3 41 3.61	24 52 51.7	76.92
23	1 47 20.18	N.16 22 28.6	131.52	23	3 43 41.75	N.25 0 33.2	75.27
SATURDAY 2.				MONDAY 4.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	1 49 33.21	N.16 35 37.7	130.82	0	3 46 20.40	N.25 8 4.8	73.58
1	1 51 46.72	16 48 42.6	130.08	1	3 48 59.56	25 15 26.3	71.88
2	1 54 0.72	17 1 43.1	129.35	2	3 51 39.21	25 22 37.6	70.15
3	1 56 15.21	17 14 39.2	128.58	3	3 54 19.35	25 29 38.5	68.42
4	1 58 30.20	17 27 30.7	127.82	4	3 56 59.97	25 36 29.0	66.65
5	2 0 45.70	17 40 17.6	127.02	5	3 59 41.07	25 43 8.9	64.87
6	2 3 1.70	17 52 59.7	126.20	6	4 2 22.65	25 49 38.1	63.07
7	2 5 18.21	18 5 36.9	125.37	7	4 5 4.69	25 55 56.5	61.25
8	2 7 35.24	18 18 9.1	124.52	8	4 7 47.18	26 2 4.0	59.42
9	2 9 52.78	18 30 36.2	123.63	9	4 10 30.11	26 8 0.5	57.55
10	2 12 10.84	18 42 58.0	122.75	10	4 13 13.49	26 13 45.8	55.68
11	2 14 29.42	18 55 14.5	121.85	11	4 15 57.29	26 19 19.9	53.78
12	2 16 48.54	19 7 25.6	120.90	12	4 18 41.52	26 24 42.6	51.87
13	2 19 8.19	19 19 31.0	119.97	13	4 21 26.17	26 29 53.8	49.95
14	2 21 28.37	19 31 30.8	118.98	14	4 24 11.22	26 34 53.5	48.02
15	2 23 49.09	19 43 24.7	118.00	15	4 26 56.66	26 39 41.6	46.03
16	2 26 10.35	19 55 12.7	116.98	16	4 29 42.48	26 44 17.8	44.07
17	2 28 32.15	20 6 54.6	115.97	17	4 32 28.68	26 48 42.2	42.08
18	2 30 54.49	20 18 30.4	114.90	18	4 35 15.23	26 52 54.7	40.08
19	2 33 17.38	20 29 59.8	113.83	19	4 38 2.14	26 56 55.2	38.05
20	2 35 40.82	20 41 22.8	112.75	20	4 40 49.40	27 0 43.5	36.03
21	2 38 4.80	20 52 39.3	111.62	21	4 43 36.98	27 4 19.7	33.98
22	2 40 29.34	21 3 49.0	110.50	22	4 46 24.87	27 7 43.6	31.93
23	2 42 54.43	21 14 52.0	109.35	23	4 49 13.07	27 10 55.2	29.85
24	2 45 20.07	N.21 25 48.1		24	4 52 1.56	N.27 13 54.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 5.				THURSDAY 7.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	4 52 1.56	N.27 13 54.3	27.77	0	7 8 3.80	N.25 24 3.4	74.37
1	4 54 50.34	27 16 40.9	25.68	1	7 10 49.77	25 16 37.2	76.27
2	4 57 39.38	27 19 15.0	23.58	2	7 13 35.38	25 8 59.6	78.18
3	5 0 28.68	27 21 36.5	21.45	3	7 16 20.60	25 1 10.5	80.07
4	5 3 18.21	27 23 45.2	19.33	4	7 19 5.44	24 53 10.1	81.93
5	5 6 7.98	27 25 41.2	17.20	5	7 21 49.88	24 44 58.5	83.77
6	5 8 57.96	27 27 24.4	15.07	6	7 24 33.91	24 36 35.9	85.60
7	5 11 48.14	27 28 54.8	12.90	7	7 27 17.53	24 28 2.3	87.42
8	5 14 38.51	27 30 12.2	10.75	8	7 30 0.73	24 19 17.8	89.20
9	5 17 29.06	27 31 16.7	8.58	9	7 32 43.51	24 10 22.6	90.97
10	5 20 19.77	27 32 8.2	6.42	10	7 35 25.84	24 1 16.8	92.72
11	5 23 10.62	27 32 46.7	4.23	11	7 38 7.74	23 52 0.5	94.45
12	5 26 1.60	27 33 12.1	2.05	12	7 40 49.19	23 42 33.8	96.15
13	5 28 52.70	27 33 24.4	0.15	13	7 43 30.18	23 32 56.9	97.83
14	5 31 43.91	27 33 23.5	2.32	14	7 46 10.71	23 23 9.9	99.50
15	5 34 35.20	27 33 9.6	4.53	15	7 48 50.77	23 13 12.9	101.15
16	5 37 26.57	27 32 42.4	6.72	16	7 51 30.36	23 3 6.0	102.75
17	5 40 18.00	27 32 2.1	8.92	17	7 54 9.47	22 52 49.5	104.35
18	5 43 9.47	27 31 8.6	11.12	18	7 56 48.10	22 42 23.4	105.92
19	5 46 0.97	27 30 1.9	13.30	19	7 59 26.25	22 31 47.9	107.48
20	5 48 52.48	27 28 42.1	15.50	20	8 2 3.91	22 21 3.0	109.00
21	5 51 44.00	27 27 9.1	17.72	21	8 4 41.07	22 10 9.0	110.50
22	5 54 35.51	27 25 22.8	19.90	22	8 7 17.74	21 59 6.0	111.98
23	5 57 26.98	N.27 23 23.4	22.08	23	8 9 53.90	N.21 47 54.1	113.45
WEDNESDAY 6.				FRIDAY 8.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	6 0 18.42	N.27 21 10.9	24.28	0	8 12 29.54	N.21 36 33.4	114.87
1	6 3 9.80	27 18 45.2	26.47	1	8 15 4.69	21 25 4.2	116.28
2	6 6 1.10	27 16 6.4	28.68	2	8 17 39.32	21 13 26.5	117.67
3	6 8 52.31	27 13 14.5	30.83	3	8 20 13.45	21 1 40.5	119.03
4	6 11 43.42	27 10 9.5	33.00	4	8 22 47.06	20 49 46.3	120.37
5	6 14 34.42	27 6 51.5	35.15	5	8 25 20.17	20 37 44.1	121.68
6	6 17 25.29	27 3 20.6	37.33	6	8 27 52.75	20 25 34.0	122.97
7	6 20 16.01	26 59 36.6	39.47	7	8 30 24.82	20 13 16.2	124.25
8	6 23 6.58	26 55 39.8	41.63	8	8 32 56.37	20 0 50.7	125.48
9	6 25 56.98	26 51 30.0	43.75	9	8 35 27.40	19 48 17.8	126.72
10	6 28 47.20	26 47 7.5	45.88	10	8 37 57.91	19 35 37.5	127.90
11	6 31 37.22	26 42 32.2	48.00	11	8 40 27.91	19 22 50.1	129.08
12	6 34 27.03	26 37 44.2	50.12	12	8 42 57.39	19 9 55.6	130.23
13	6 37 16.61	26 32 43.5	52.22	13	8 45 26.35	18 56 54.2	131.35
14	6 40 5.96	26 27 30.2	54.28	14	8 47 54.79	18 43 46.1	132.47
15	6 42 55.06	26 22 4.5	56.37	15	8 50 22.71	18 30 31.3	133.53
16	6 45 43.90	26 16 26.3	58.42	16	8 52 50.12	18 17 10.1	134.58
17	6 48 32.46	26 10 35.8	60.47	17	8 55 17.01	18 3 42.6	135.62
18	6 51 20.74	26 4 33.0	62.50	18	8 57 43.39	17 50 8.9	136.62
19	6 54 8.72	25 58 18.0	64.52	19	9 0 9.26	17 36 29.2	137.60
20	6 56 56.39	25 51 50.9	66.52	20	9 2 34.62	17 22 43.6	138.55
21	6 59 43.75	25 45 11.8	68.50	21	9 4 59.48	17 8 52.3	139.5
22	7 2 30.77	25 38 20.8	70.47	22	9 7 23.83	16 54 55.3	140
23	7 5 17.46	25 31 18.0	72.43	23	9 9 47.67	16 40 52.9	141
24	7 8 3.80	N.25 24 3.4		24	9 12 11.02	N.16 26 45.1	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 9.				MONDAY 11.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 12 11.02	N. 16 26 45.1	142.15	0	10 58 22.24	N. 4 5 25.7	159.95
1	9 14 33.87	16 12 32.2	142.98	1	11 0 26.38	3 49 26.0	159.90
2	9 16 56.23	15 58 14.3	143.82	2	11 2 30.27	3 33 26.6	159.83
3	9 19 18.09	15 43 51.4	144.60	3	11 4 33.90	3 17 27.6	159.75
4	9 21 39.47	15 29 23.8	145.38	4	11 6 37.28	3 1 29.1	159.68
5	9 24 0.36	15 14 51.5	146.13	5	11 8 40.42	2 45 31.0	159.57
6	9 26 20.77	15 0 14.7	146.87	6	11 10 43.33	2 29 33.6	159.45
7	9 28 40.70	14 45 33.5	147.57	7	11 12 46.00	2 13 36.9	159.32
8	9 31 0.16	14 30 48.1	148.25	8	11 14 48.45	1 57 41.0	159.18
9	9 33 19.14	14 15 58.6	148.92	9	11 16 50.67	1 41 45.9	159.03
10	9 35 37.66	14 1 5.1	149.57	10	11 18 52.68	1 25 51.7	158.85
11	9 37 55.72	13 46 7.7	150.20	11	11 20 54.49	1 9 58.6	158.68
12	9 40 13.31	13 31 6.5	150.80	12	11 22 56.09	0 54 6.5	158.48
13	9 42 30.45	13 16 1.7	151.37	13	11 24 57.49	0 38 15.6	158.28
14	9 44 47.14	13 0 53.5	151.93	14	11 26 58.70	0 22 25.9	158.07
15	9 47 3.39	12 45 41.9	152.48	15	11 28 59.72	N. 0 6 37.5	157.83
16	9 49 19.19	12 30 27.0	152.98	16	11 31 0.56	S. 0 9 9.5	157.58
17	9 51 34.56	12 15 9.1	153.50	17	11 33 1.23	0 24 55.0	157.35
18	9 53 49.49	11 59 48.1	153.97	18	11 35 1.72	0 40 39.1	157.08
19	9 56 4.00	11 44 24.3	154.43	19	11 37 2.05	0 56 21.6	156.80
20	9 58 18.09	11 28 57.7	154.87	20	11 39 2.22	1 12 2.4	156.52
21	10 0 31.75	11 13 28.5	155.28	21	11 41 2.23	1 27 41.5	156.22
22	10 2 45.01	10 57 56.8	155.68	22	11 43 2.10	1 43 18.8	155.92
23	10 4 57.86	N. 10 42 22.7	156.07	23	11 45 1.82	S. 1 58 54.3	155.60
SUNDAY 10.				TUESDAY 12.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	10 7 10.30	N. 10 26 46.3	156.42	0	11 47 1.40	S. 2 14 27.9	155.27
1	10 9 22.35	10 11 7.8	156.77	1	11 49 0.85	2 29 59.5	154.93
2	10 11 34.01	9 55 27.2	157.08	2	11 51 0.17	2 45 29.1	154.58
3	10 13 45.28	9 39 44.7	157.40	3	11 52 59.37	3 0 56.6	154.22
4	10 15 56.17	9 24 0.3	157.68	4	11 54 58.45	3 16 21.9	153.85
5	10 18 6.68	9 8 14.2	157.95	5	11 56 57.41	3 31 45.0	153.47
6	10 20 16.82	8 52 26.5	158.20	6	11 58 56.27	3 47 5.8	153.08
7	10 22 26.60	8 36 37.3	158.45	7	12 0 55.03	4 2 24.3	152.68
8	10 24 36.02	8 20 46.6	158.65	8	12 2 53.69	4 17 40.4	152.27
9	10 26 45.08	8 4 54.7	158.85	9	12 4 52.26	4 32 54.0	151.85
10	10 28 53.80	7 49 1.6	159.03	10	12 6 50.74	4 48 5.1	151.42
11	10 31 2.17	7 33 7.4	159.22	11	12 8 49.13	5 3 13.6	150.98
12	10 33 10.20	7 17 12.1	159.37	12	12 10 47.45	5 18 19.5	150.53
13	10 35 17.90	7 1 15.9	159.48	13	12 12 45.70	5 33 22.7	150.08
14	10 37 25.27	6 45 19.0	159.62	14	12 14 43.87	5 48 23.2	149.60
15	10 39 32.32	6 29 21.3	159.72	15	12 16 41.99	6 3 20.8	149.15
16	10 41 39.06	6 13 23.0	159.80	16	12 18 40.05	6 18 15.7	148.65
17	10 43 45.48	5 57 24.2	159.88	17	12 20 38.05	6 33 7.6	148.15
18	10 45 51.60	5 41 24.9	159.92	18	12 22 36.01	6 47 56.5	147.65
19	10 47 57.42	5 25 25.4	159.97	19	12 24 33.92	7 2 42.4	147.13
20	10 50 2.95	5 9 25.6	160.00	20	12 26 31.80	7 17 25.2	146.62
21	10 52 8.19	4 53 25.6	160.00	21	12 28 29.64	7 32 4.9	146.10
22	10 54 13.15	4 37 25.6	160.00	22	12 30 27.45	7 46 41.5	145.55
23	10 56 17.83	4 21 25.6	159.98	23	12 32 25.24	8 1 14.8	145.00
24	10 58 22.24	N. 4 5 25.7		24	12 34 23.00	S. 8 15 44.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>WEDNESDAY 13.</i>				<i>FRIDAY 15.</i>			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	12 34 23.00	S. 8 15 44.8	144.45	0	14 9 30.48	S. 18 32 11.5	108.85
1	12 36 20.75	8 30 11.5	143.88	1	14 11 31.91	18 43 4.6	107.93
2	12 38 18.49	8 44 34.8	143.30	2	14 13 33.50	18 53 52.2	107.02
3	12 40 16.23	8 58 54.6	142.73	3	14 15 35.23	19 4 34.3	106.08
4	12 42 13.96	9 13 11.0	142.15	4	14 17 37.11	19 15 10.8	105.15
5	12 44 11.69	9 27 23.9	141.55	5	14 19 39.15	19 25 41.7	104.22
6	12 46 9.43	9 41 33.2	140.93	6	14 21 41.35	19 36 7.0	103.25
7	12 48 7.18	9 55 38.8	140.33	7	14 23 43.70	19 46 26.5	102.30
8	12 50 4.95	10 9 40.8	139.72	8	14 25 46.21	19 56 40.3	101.35
9	12 52 2.73	10 23 39.1	139.08	9	14 27 48.88	20 6 48.4	100.37
10	12 54 0.54	10 37 33.6	138.45	10	14 29 51.72	20 16 50.6	99.40
11	12 55 58.38	10 51 24.3	137.80	11	14 31 54.72	20 26 47.0	98.42
12	12 57 56.24	11 5 11.1	137.17	12	14 33 57.88	20 36 37.5	97.43
13	12 59 54.14	11 18 54.1	136.50	13	14 36 1.21	20 46 22.1	96.43
14	13 1 52.07	11 32 33.1	135.83	14	14 38 4.70	20 56 0.7	95.43
15	13 3 50.05	11 46 8.1	135.15	15	14 40 8.36	21 5 33.3	94.43
16	13 5 48.08	11 59 39.0	134.48	16	14 42 12.19	21 14 59.9	93.40
17	13 7 46.16	12 13 5.9	133.78	17	14 44 16.19	21 24 20.3	92.40
18	13 9 44.29	12 26 28.6	133.10	18	14 46 20.36	21 33 34.7	91.37
19	13 11 42.48	12 39 47.2	132.40	19	14 48 24.71	21 42 42.9	90.33
20	13 13 40.73	12 53 1.6	131.67	20	14 50 29.22	21 51 44.9	89.28
21	13 15 39.05	13 6 11.6	130.97	21	14 52 33.91	22 0 40.6	88.25
22	13 17 37.44	13 19 17.4	130.23	22	14 54 38.77	22 9 30.1	87.18
23	13 19 35.90	S. 13 32 18.8	129.50	23	14 56 43.81	S. 22 18 13.2	86.13
<i>THURSDAY 14.</i>				<i>SATURDAY 16.</i>			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	13 21 34.44	S. 13 45 15.8	128.77	0	14 58 49.02	S. 22 56 50.0	85.07
1	13 23 33.06	13 58 8.4	128.00	1	15 0 54.40	22 35 20.4	84.00
2	13 25 31.76	14 10 56.4	127.25	2	15 2 59.96	22 43 44.4	82.90
3	13 27 30.55	14 23 39.9	126.50	3	15 5 5.69	22 52 1.8	81.83
4	13 29 29.43	14 36 18.9	125.72	4	15 7 11.60	23 0 12.8	80.75
5	13 31 28.40	14 48 53.2	124.95	5	15 9 17.68	23 8 17.3	79.65
6	13 33 27.47	15 1 22.9	124.17	6	15 11 23.93	23 16 15.2	78.53
7	13 35 26.64	15 13 47.9	123.37	7	15 13 30.36	23 24 6.4	77.43
8	13 37 25.91	15 26 8.1	122.57	8	15 15 36.96	23 31 51.0	76.32
9	13 39 25.29	15 38 23.5	121.77	9	15 17 43.74	23 39 28.9	75.22
10	13 41 24.77	15 50 34.1	120.95	10	15 19 50.69	23 47 0.2	74.07
11	13 43 24.37	16 2 39.8	120.13	11	15 21 57.80	23 54 24.6	72.95
12	13 45 24.08	16 14 40.6	119.30	12	15 24 5.09	24 1 42.3	71.80
13	13 47 23.91	16 26 36.4	118.48	13	15 26 12.55	24 8 53.1	70.67
14	13 49 23.85	16 38 27.3	117.63	14	15 28 20.17	24 15 57.1	69.52
15	13 51 23.92	16 50 13.1	116.78	15	15 30 27.97	24 22 54.2	68.37
16	13 53 24.12	17 1 53.8	115.93	16	15 32 35.93	24 29 44.4	67.20
17	13 55 24.44	17 13 29.4	115.07	17	15 34 44.06	24 36 27.6	66.05
18	13 57 24.89	17 24 59.8	114.20	18	15 36 52.35	24 43 3.9	64.87
19	13 59 25.48	17 36 25.0	113.33	19	15 39 0.81	24 49 33.1	63.70
20	14 1 26.20	17 47 45.0	112.43	20	15 41 9.42	24 55 55.3	62.50
21	14 3 27.06	17 58 59.6	111.57	21	15 43 18.20	25 2 10.3	61.33
22	14 5 28.06	18 10 9.0	110.65	22	15 45 27.14	25 8 18.3	60.13
23	14 7 29.20	18 21 12.9	109.77	23	15 47 36.24	25 14 19.1	58.95
24	14 9 30.48	S. 18 32 11.5		24	15 49 45.49	S. 25 20 12.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SUNDAY 17.				TUESDAY 19.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	15 49 45.49	S. 25 20 12.8	57.75	0	17 35 18.49	S. 27 34 37.9	4
1	15 51 54.89	25 25 59.3	56.53	1	17 37 31.66	27 34 13.9	4
2	15 54 4.45	25 31 38.5	55.32	2	17 39 44.81	27 33 42.0	6
3	15 56 14.16	25 37 10.4	54.12	3	17 41 57.94	27 33 2.1	7
4	15 58 24.01	25 42 35.1	52.88	4	17 44 11.04	27 32 14.3	9
5	16 0 34.01	25 47 52.4	51.67	5	17 46 24.10	27 31 18.6	10
6	16 2 44.15	25 53 2.4	50.43	6	17 48 37.13	27 30 14.9	11
7	16 4 54.44	25 58 5.0	49.20	7	17 50 50.12	27 29 3.3	12
8	16 7 4.86	26 3 0.2	47.95	8	17 53 3.07	27 27 43.9	14
9	16 9 15.42	26 7 47.9	46.72	9	17 55 15.96	27 26 16.5	15
10	16 11 26.11	26 12 28.2	45.47	10	17 57 28.81	27 24 41.2	17
11	16 13 36.93	26 17 1.0	44.22	11	17 59 41.59	27 22 58.1	18
12	16 15 47.88	26 21 26.3	42.95	12	18 1 54.31	27 21 7.1	19
13	16 17 58.96	26 25 44.0	41.70	13	18 4 6.96	27 19 8.2	21
14	16 20 10.15	26 29 54.2	40.42	14	18 6 19.54	27 17 1.5	22
15	16 22 21.47	26 33 56.7	39.17	15	18 8 32.05	27 14 46.9	23
16	16 24 32.90	26 37 51.7	37.88	16	18 10 44.48	27 12 24.6	25
17	16 26 44.45	26 41 39.0	36.62	17	18 12 56.82	27 9 54.4	26
18	16 28 56.10	26 45 18.7	35.33	18	18 15 9.08	27 7 16.5	27
19	16 31 7.86	26 48 50.7	34.07	19	18 17 21.24	27 4 30.8	28
20	16 33 19.73	26 52 15.1	32.77	20	18 19 33.31	27 1 37.3	30
21	16 35 31.69	26 55 31.7	31.48	21	18 21 45.28	26 58 36.2	31
22	16 37 43.75	26 58 40.6	30.20	22	18 23 57.14	26 55 27.3	32
23	16 39 55.90	S. 27 1 41.8	28.92	23	18 26 8.90	S. 26 52 10.7	34
MONDAY 18.				WEDNESDAY 20.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	16 42 8.15	S. 27 4 35.3	27.62	0	18 28 20.54	S. 26 48 46.5	35
1	16 44 20.48	27 7 21.0	26.32	1	18 30 32.07	26 45 14.6	36
2	16 46 32.89	27 9 58.9	25.02	2	18 32 43.49	26 41 35.2	37
3	16 48 45.38	27 12 29.0	23.70	3	18 34 54.78	26 37 48.1	39
4	16 50 57.94	27 14 51.2	22.42	4	18 37 5.94	26 33 53.5	40
5	16 53 10.58	27 17 5.7	21.08	5	18 39 16.98	26 29 51.3	41
6	16 55 23.28	27 19 12.2	19.80	6	18 41 27.88	26 25 41.6	42
7	16 57 36.04	27 21 11.0	18.47	7	18 43 38.64	26 21 24.4	44
8	16 59 48.86	27 23 1.8	17.17	8	18 45 49.27	26 16 59.7	45
9	17 2 1.74	27 24 44.8	15.85	9	18 47 59.75	26 12 27.6	46
10	17 4 14.66	27 26 19.9	14.52	10	18 50 10.08	26 7 48.1	47
11	17 6 27.63	27 27 47.0	13.22	11	18 52 20.27	26 3 1.2	49
12	17 8 40.64	27 29 6.3	11.88	12	18 54 30.30	25 58 7.0	50
13	17 10 53.69	27 30 17.6	10.57	13	18 56 40.17	25 53 5.4	51
14	17 13 6.77	27 31 21.0	9.23	14	18 58 49.89	25 47 56.6	52
15	17 15 19.89	27 32 16.4	7.92	15	19 0 59.44	25 42 40.4	53
16	17 17 33.02	27 33 3.9	6.60	16	19 3 8.83	25 37 17.1	55
17	17 19 46.18	27 33 43.5	5.27	17	19 5 18.04	25 31 46.5	56
18	17 21 59.35	27 34 15.1	3.95	18	19 7 27.09	25 26 8.8	57
19	17 24 12.54	27 34 38.8	2.62	19	19 9 35.97	25 20 24.0	58
20	17 26 25.73	27 34 54.5	1.30	20	19 11 44.67	25 14 32.1	59
21	17 28 38.93	27 35 2.3	0.03	21	19 13 53.19	25 8 33.1	61
22	17 30 52.12	27 35 2.1	1.35	22	19 16 1.53	25 2 27.1	62
23	17 33 5.31	27 34 54.0	2.68	23	19 18 9.68	24 56 14.2	63
24	17 35 18.49	S. 27 34 37.9		24	19 20 17.66	S. 24 49 54.2	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 21.				SATURDAY 23.			
	<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>		<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>
0	19 20 17.66	S. 24 49 54.2	64.47	0	20 58 40.11	S. 17 43 47.5	111.05
1	19 22 25.45	24 43 27.4	65.62	1	21 0 38.02	17 32 41.2	111.83
2	19 24 33.04	24 36 53.7	66.75	2	21 2 35.74	17 21 30.2	112.60
3	19 26 40.45	24 30 13.2	67.88	3	21 4 33.26	17 10 14.6	113.35
4	19 28 47.67	24 23 25.9	69.02	4	21 6 30.60	16 58 54.5	114.10
5	19 30 54.69	24 16 31.8	70.13	5	21 8 27.75	16 47 29.9	114.83
6	19 33 1.51	24 9 31.0	71.23	6	21 10 24.72	16 36 0.9	115.57
7	19 35 8.13	24 2 23.6	72.35	7	21 12 21.50	16 24 27.5	116.28
8	19 37 14.56	23 55 9.5	73.43	8	21 14 18.10	16 12 49.8	117.02
9	19 39 20.78	23 47 48.9	74.53	9	21 16 14.52	16 1 7.7	117.70
10	19 41 26.80	23 40 21.7	75.62	10	21 18 10.76	15 49 21.5	118.42
11	19 43 32.62	23 32 48.0	76.70	11	21 20 6.83	15 37 31.0	119.10
12	19 45 38.23	23 25 7.8	77.77	12	21 22 2.73	15 25 36.4	119.78
13	19 47 43.64	23 17 21.2	78.82	13	21 23 58.46	15 13 37.7	120.45
14	19 49 48.84	23 9 28.3	79.88	14	21 25 54.01	15 1 35.0	121.13
15	19 51 53.83	23 1 29.0	80.93	15	21 27 49.41	14 49 28.2	121.77
16	19 53 58.61	22 53 23.4	81.97	16	21 29 44.64	14 37 17.6	122.42
17	19 56 3.18	22 45 11.6	83.00	17	21 31 39.71	14 25 3.1	123.07
18	19 58 7.54	22 36 53.6	84.03	18	21 33 34.62	14 12 44.7	123.68
19	20 0 11.69	22 28 29.4	85.03	19	21 35 29.37	14 0 22.6	124.32
20	20 2 15.63	22 19 59.2	86.05	20	21 37 23.98	13 47 56.7	124.92
21	20 4 19.36	22 11 22.9	87.05	21	21 39 18.43	13 35 27.2	125.53
22	20 6 22.87	22 2 40.6	88.05	22	21 41 12.73	13 22 54.0	126.12
23	20 8 26.17	S. 21 53 52.3	89.03	23	21 43 6.89	S. 13 10 17.3	126.70
FRIDAY 22.				SUNDAY 24.			
	<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>		<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>
0	20 10 29.25	S. 21 44 58.1	90.02	0	21 45 0.91	S. 12 57 37.1	127.28
1	20 12 32.12	21 35 58.0	90.97	1	21 46 54.79	12 44 53.4	127.83
2	20 14 34.78	21 26 52.2	91.95	2	21 48 48.53	12 32 6.4	128.42
3	20 16 37.23	21 17 40.5	92.88	3	21 50 42.14	12 19 15.9	128.97
4	20 18 39.46	21 8 23.2	93.85	4	21 52 35.62	12 6 22.1	129.50
5	20 20 41.47	20 59 0.1	94.78	5	21 54 28.97	11 53 25.1	130.03
6	20 22 43.28	20 49 31.4	95.72	6	21 56 22.20	11 40 24.9	130.57
7	20 24 44.87	20 39 57.1	96.63	7	21 58 15.31	11 27 21.5	131.08
8	20 26 46.25	20 30 17.3	97.55	8	22 0 8.30	11 14 15.0	131.60
9	20 28 47.42	20 20 32.0	98.45	9	22 2 1.17	11 1 5.4	132.10
10	20 30 48.38	20 10 41.3	99.35	10	22 3 53.94	10 47 52.8	132.60
11	20 32 49.12	20 0 45.2	100.25	11	22 5 46.60	10 34 37.2	133.08
12	20 34 49.66	19 50 43.7	101.13	12	22 7 39.16	10 21 18.7	133.57
13	20 36 49.99	19 40 36.9	102.00	13	22 9 31.61	10 7 57.3	134.03
14	20 38 50.11	19 30 24.9	102.87	14	22 11 23.97	9 54 33.1	134.48
15	20 40 50.03	19 20 7.7	103.72	15	22 13 16.23	9 41 6.2	134.95
16	20 42 49.73	19 9 45.4	104.58	16	22 15 8.40	9 27 36.5	135.38
17	20 44 49.24	18 59 17.9	105.42	17	22 17 0.48	9 14 4.2	135.83
18	20 46 48.54	18 48 45.4	106.23	18	22 18 52.49	9 0 29.2	136.25
19	20 48 47.63	18 38 8.0	107.08	19	22 20 44.41	8 46 51.7	136.67
20	20 50 46.53	18 27 25.5	107.88	20	22 22 36.25	8 33 11.7	137.08
21	20 52 45.22	18 16 38.2	108.68	21	22 24 28.02	8 19 29.2	137.48
22	20 54 43.72	18 5 46.1	109.50	22	22 26 19.72	8 5 44.3	137.87
23	20 56 42.01	17 54 49.1	110.27	23	22 28 11.36	7 51 57.1	138.27
24	20 58 40.11	S. 17 43 47.5		24	22 30 2.93	S. 7 38 7.5	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
<i>MONDAY 25.</i>				<i>WEDNESDAY 27.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	22 30 2.93	S. 7 38 7.5	138.63	0	23 59 26.09	N. 3 54 6.2
1	22 31 54.45	7 24 15.7	139.00	1	0 1 19.78	4 8 45.7
2	22 33 45.90	7 10 21.7	139.37	2	0 3 13.62	4 23 24.9
3	22 35 37.31	6 56 25.5	139.72	3	0 5 7.63	4 38 3.6
4	22 37 28.68	6 42 27.2	140.05	4	0 7 1.81	4 52 42.0
5	22 39 20.00	6 28 26.9	140.40	5	0 8 56.16	5 7 19.8
6	22 41 11.28	6 14 24.5	140.72	6	0 10 50.68	5 21 57.0
7	22 43 2.53	6 0 20.2	141.03	7	0 12 45.38	5 36 33.6
8	22 44 53.75	5 46 14.0	141.33	8	0 14 40.28	5 51 9.5
9	22 46 44.94	5 32 6.0	141.65	9	0 16 35.38	6 5 44.7
10	22 48 36.10	5 17 56.1	141.93	10	0 18 30.67	6 20 19.0
11	22 50 27.25	5 3 44.5	142.23	11	0 20 26.16	6 34 52.5
12	22 52 18.39	4 49 31.1	142.50	12	0 22 21.86	6 49 25.0
13	22 54 9.51	4 35 16.1	142.77	13	0 24 17.78	7 3 56.6
14	22 56 0.63	4 20 59.5	143.03	14	0 26 13.91	7 18 27.1
15	22 57 51.75	4 6 41.3	143.28	15	0 28 10.27	7 32 56.4
16	22 59 42.87	3 52 21.6	143.52	16	0 30 6.85	7 47 24.6
17	23 1 33.99	3 38 0.5	143.75	17	0 32 3.67	8 1 51.5
18	23 3 25.12	3 23 38.0	143.97	18	0 34 0.73	8 16 17.0
19	23 5 16.27	3 9 14.2	144.20	19	0 35 58.03	8 30 41.2
20	23 7 7.44	2 54 49.0	144.40	20	0 37 55.58	8 45 4.0
21	23 8 58.63	2 40 22.6	144.60	21	0 39 53.38	8 59 25.2
22	23 10 49.86	2 25 55.0	144.78	22	0 41 51.44	9 13 44.8
23	23 12 41.11	S. 2 11 26.3	144.97	23	0 43 49.76	N. 9 28 2.7
<i>TUESDAY 26.</i>				<i>THURSDAY 28.</i>		
0	23 14 32.40	S. 1 56 56.5	145.13	0	0 45 48.35	N. 9 42 18.9
1	23 16 23.73	1 42 25.7	145.30	1	0 47 47.21	9 56 33.3
2	23 18 15.11	1 27 53.9	145.47	2	0 49 46.35	10 10 45.8
3	23 20 6.53	1 13 21.1	145.60	3	0 51 45.77	10 24 56.4
4	23 21 58.01	0 58 47.5	145.73	4	0 53 45.48	10 39 5.0
5	23 23 49.55	0 44 13.1	145.87	5	0 55 45.49	10 53 11.5
6	23 25 41.15	0 29 37.9	145.98	6	0 57 45.79	11 7 15.9
7	23 27 32.82	0 15 2.0	146.10	7	0 59 46.39	11 21 18.0
8	23 29 24.56	S. 0 0 25.4	146.20	8	1 1 47.31	11 35 17.9
9	23 31 16.38	N. 0 14 11.8	146.28	9	1 3 48.53	11 49 15.3
10	23 33 8.28	0 28 49.5	146.38	10	1 5 50.07	12 3 10.4
11	23 35 0.26	0 43 27.8	146.45	11	1 7 51.94	12 17 2.9
12	23 36 52.34	0 58 6.5	146.52	12	1 9 54.14	12 30 52.8
13	23 38 44.52	1 12 45.6	146.58	13	1 11 56.68	12 44 40.1
14	23 40 36.79	1 27 25.1	146.62	14	1 13 59.55	12 58 24.6
15	23 42 29.17	1 42 4.8	146.67	15	1 16 2.77	13 12 6.3
16	23 44 21.66	1 56 44.8	146.68	16	1 18 6.33	13 25 45.1
17	23 46 14.26	2 11 24.9	146.72	17	1 20 10.25	13 39 20.9
18	23 48 6.99	2 26 5.2	146.73	18	1 22 14.53	13 52 53.6
19	23 49 59.84	2 40 45.6	146.72	19	1 24 19.17	14 6 23.2
20	23 51 52.81	2 55 25.9	146.72	20	1 26 24.18	14 19 49.6
21	23 53 45.92	3 10 6.2	146.70	21	1 28 29.56	14 33 12.6
22	23 55 39.17	3 24 46.4	146.67	22	1 30 35.31	14 46 32.3
23	23 57 32.56	3 39 26.4	146.63	23	1 32 41.44	14 59 48.4
24	23 59 26.09	N. 3 54 6.2		24	1 34 47.96	N. 15 13 1.0

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
FRIDAY 29.				SUNDAY 31.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
1	34 47 96	N.15 13 10	131 48	0	3 24 44 32	N.24 6 34 7	83 33
1	36 54 87	15 26 9 9	130 87	1	3 27 13 52	24 14 54 7	81 88
1	39 2 17	15 39 15 1	130 23	2	3 29 43 21	24 23 6 0	80 45
1	41 9 87	15 52 16 5	129 57	3	3 32 13 38	24 31 8 7	78 97
1	43 17 98	16 5 13 9	128 92	4	3 34 44 03	24 39 2 5	77 48
1	45 26 49	16 18 7 4	128 22	5	3 37 15 15	24 46 47 4	75 98
1	47 35 41	16 30 56 7	127 53	6	3 39 46 75	24 54 23 3	74 47
1	49 44 75	16 43 41 9	126 82	7	3 42 18 82	25 1 50 1	72 93
1	51 54 51	16 56 22 8	126 08	8	3 44 51 35	25 9 7 7	71 37
1	54 4 69	17 8 59 3	125 35	9	3 47 24 35	25 16 15 9	69 80
1	56 15 30	17 21 31 4	124 60	10	3 49 57 81	25 23 14 7	68 20
1	58 26 34	17 33 59 0	123 82	11	3 52 31 71	25 30 3 9	66 60
2	0 37 82	17 46 21 9	123 03	12	3 55 6 07	25 36 43 5	64 97
2	2 49 74	17 58 40 1	122 22	13	3 57 40 88	25 43 13 3	63 33
2	5 2 10	18 10 53 4	121 40	14	4 0 16 13	25 49 33 3	61 67
2	7 14 91	18 23 1 8	120 57	15	4 2 51 82	25 55 43 3	60 00
2	9 28 17	18 35 5 2	119 72	16	4 5 27 94	26 1 43 3	58 30
2	11 41 88	18 47 3 5	118 85	17	4 8 4 48	26 7 33 1	56 60
2	13 56 05	18 58 56 6	117 95	18	4 10 41 44	26 13 12 7	54 88
2	16 10 68	19 10 44 3	117 07	19	4 13 18 80	26 18 42 0	53 13
2	18 25 77	19 22 26 7	116 13	20	4 15 56 58	26 24 0 8	51 38
2	20 41 33	19 34 3 5	115 20	21	4 18 34 75	26 29 9 1	49 60
2	22 57 35	19 45 34 7	114 25	22	4 21 13 31	26 34 6 7	47 83
2	25 13 84	N.19 57 0 2	113 28	23	4 23 52 25	N.26 38 53 7	
SATURDAY 30.				MONDAY, FEB. 1.			
2	27 30 81	N.20 8 19 9	112 30	0	4 26 31 57	N.26 43 29 9	
2	29 48 25	20 19 33 7	111 28				
2	32 6 18	20 30 41 4	110 28				
2	34 24 58	20 41 43 1	109 23				
2	36 43 47	20 52 38 5	108 17				
2	39 2 84	21 3 27 5	107 10				
2	41 22 70	21 14 10 1	106 02				
2	43 43 04	21 24 46 2	104 92				
2	46 3 88	21 35 15 7	103 78				
2	48 25 20	21 45 38 4	102 63				
2	50 47 02	21 55 54 2	101 47				
2	53 9 33	22 6 3 0	100 30				
2	55 32 13	22 16 4 8	99 10				
2	57 55 43	22 25 59 4	97 88				
3	0 19 22	22 35 46 7	96 65				
3	2 43 51	22 45 26 6	95 40				
3	5 8 30	22 54 59 0	94 12				
3	7 33 57	23 4 23 7	92 85				
3	9 59 35	23 13 40 8	91 53				
3	12 25 62	23 22 50 0	90 20				
3	14 52 38	23 31 51 2	88 87				
3	17 19 63	23 40 44 4	87 52				
3	19 47 37	23 49 29 5	86 13				
3	22 15 61	23 58 6 3	84 73				
3	24 44 32	N.24 6 34 7					

PHASES OF THE MOON.

○ Full Moon - - 7 2 58 2
 ☾ Last Quarter - 14 0 31 0
 ● New Moon - - 22 5 6 1
 ☽ First Quarter - 29 23 0 2

☾ Perigee - - - - - 6 17
 ☾ Apogee - - - - - 19 16

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ⁱ ⁿ		^o ⁱ ⁿ		^o ⁱ ⁿ		^o ⁱ ⁿ
1	Sun W.	96 42 3	2383	98 14 44	2865	99 47 48	2845	101 21 17
	Venus W.	58 3 42	2944	59 35 5	2926	61 6 51	2906	62 39 2
	Fomalhaut W.	51 54 23	3089	53 22 46	3048	54 52 0	3009	56 22 2
	α Pegasi W.	29 48 7	3357	31 11 13	3264	32 36 7	3179	34 2 41
	Aldebaran E.	50 46 31	2657	49 8 53	2646	47 31 1	2636	45 52 53
	Pollux E.	92 45 53	2545	91 5 42	2528	89 25 7	2510	87 44 8
2	Sun W.	109 14 53	2731	110 50 52	2711	112 27 17	2692	114 4 7
	Venus W.	70 26 11	2789	72 0 53	2770	73 36 0	2750	75 11 33
	Fomalhaut W.	64 3 18	2808	65 37 36	2778	67 12 32	2750	68 48 5
	α Pegasi W.	41 35 46	2820	43 9 48	2776	44 44 48	2734	46 20 43
	Aldebaran E.	37 39 44	2598	36 0 46	2599	34 21 49	2602	32 42 56
	Pollux E.	79 13 3	2405	77 29 35	2387	75 45 42	2369	74 1 23
3	Sun W.	122 14 40	2580	123 54 2	2562	125 33 49	2545	127 14 0
	Venus W.	83 15 44	2635	84 53 51	2617	86 32 23	2599	88 11 20
	Fomalhaut W.	76 54 24	2603	78 33 15	2582	80 12 35	2561	81 52 23
	α Pegasi W.	54 32 32	2529	56 13 5	2501	57 54 17	2474	59 36 7
	Pollux E.	65 13 30	2266	63 26 41	2250	61 39 28	2233	59 51 50
	Regulus E.	102 6 27	2253	100 19 18	2236	98 31 44	2219	96 43 45
4	Venus W.	96 32 2	2497	98 13 19	2482	99 54 58	2466	101 36 59
	α Pegasi W.	68 13 53	2336	69 59 0	2317	71 44 34	2299	73 30 35
	α Arietis W.	24 46 54	2210	26 35 7	2186	28 23 55	2163	30 13 18
	Pollux E.	50 48 1	2145	48 58 10	2132	47 7 59	2120	45 17 30
	Regulus E.	87 37 49	2126	85 47 29	2111	83 56 47	2097	82 5 44
5	Venus W.	110 11 49	2389	111 55 39	2380	113 39 43	2369	115 24 2
	α Pegasi W.	82 26 31	2211	84 14 42	2200	86 3 9	2190	87 51 52
	α Arietis W.	39 27 9	2063	41 19 6	2051	43 11 21	2039	45 3 55
	Pollux E.	36 0 56	2062	34 8 58	2055	32 16 50	2051	30 24 35
	Regulus E.	72 45 38	2026	70 52 45	2016	68 59 36	2007	67 6 13
6	α Arietis W.	54 30 19	1989	56 24 10	1985	58 18 8	1981	60 12 12
	Aldebaran W.	24 20 33	2396	26 4 13	2337	27 49 18	2290	29 35 32
	Regulus E.	57 36 25	1968	55 42 0	1965	53 47 30	1961	51 52 54
	Mars E.	107 53 40	2131	106 3 28	2126	104 13 8	2122	102 22 42
7	α Arietis W.	69 43 19	1976	71 37 31	1978	73 31 40	1981	75 25 45
	Aldebaran W.	38 38 10	2140	40 28 8	2129	42 18 23	2120	44 8 51
	Regulus E.	42 19 31	1961	40 24 55	1963	38 30 23	1967	36 35 57
	Mars E.	93 9 56	2119	91 19 26	2121	89 28 59	2124	87 38 37
	Spica η E.	96 22 6	1963	94 27 33	1965	92 33 4	1968	90 38 40
8	α Arietis W.	84 54 6	2018	86 47 13	2026	88 40 6	2035	90 32 45
	Aldebaran W.	53 22 32	2111	55 13 14	2116	57 3 49	2121	58 54 16
	Regulus E.	27 6 0	2007	25 12 37	2017	23 19 30	2028	21 26 39
	Mars E.	78 28 57	2164	76 39 36	2174	74 50 29	2184	73 1 38
	Spica η E.	81 8 47	2007	79 15 23	2015	77 22 12	2025	75 29 17
9	Aldebaran W.	68 3 33	2175	69 52 39	2187	71 41 26	2200	73 29 53
	Pollux W.	25 14 31	2154	27 4 8	2162	28 53 33	2170	30 42 46
	Mars E.	64 1 58	2264	62 15 5	2279	60 28 35	2296	58 42 29
	Spica η E.	66 9 5	2098	64 18 2	2112	62 27 21	2126	60 37 2

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]	
1	SUN W.	102 55 10	2808	104 29 28	2788	106 4 12	2769	107 39 20	2750
	Venus W.	64 11 38	2868	65 44 38	2848	67 18 4	2828	68 51 55	2809
	Fomalhaut W.	57 52 51	2936	59 24 24	2902	60 56 41	2870	62 29 39	2838
	α Pegasi W.	35 30 44	3038	37 0 10	2976	38 30 53	2920	40 2 46	2868
	Aldebaran E.	44 14 37	2618	42 36 7	2611	40 57 27	2604	39 18 38	2601
	Pollux E.	86 2 45	2475	84 20 57	2458	82 38 44	2441	80 56 7	2422
2	SUN W.	115 41 22	2654	117 19 4	2636	118 57 10	2617	120 35 42	2598
	Venus W.	76 47 32	2711	78 23 57	2692	80 0 47	2673	81 38 3	2655
	Fomalhaut W.	70 24 14	2698	72 0 57	2672	73 38 14	2648	75 16 3	2625
	α Pegasi W.	47 57 30	2658	49 35 7	2623	51 13 31	2590	52 52 40	2559
	Aldebaran E.	31 4 12	2619	29 25 43	2636	27 47 37	2660	26 10 3	2693
	Pollux E.	72 16 39	2334	70 31 29	2317	68 45 54	2300	66 59 55	2283
3	SUN W.	128 54 36	2510	130 35 35	2494	132 16 57	2477	133 58 42	2462
	Venus W.	89 50 41	2564	91 30 26	2546	93 10 35	2530	94 51 7	2513
	Fomalhaut W.	83 32 38	2524	85 13 18	2506	86 54 23	2489	88 35 52	2474
	α Pegasi W.	61 18 34	2424	63 1 35	2400	64 45 10	2378	66 29 16	2357
	Pollux E.	58 3 49	2203	56 15 26	2187	54 26 39	2173	52 37 30	2159
	Regulus E.	94 55 21	2187	93 6 34	2171	91 17 22	2155	89 27 47	2140
4	Venus W.	103 19 19	2438	105 1 59	2425	106 44 58	2412	108 28 15	2400
	α Pegasi W.	75 17 1	2265	77 3 52	2251	78 51 4	2236	80 38 38	2223
	α Arietis W.	32 3 11	2124	33 53 33	2107	35 44 21	2091	37 35 34	2077
	Pollux E.	43 26 42	2097	41 35 38	2087	39 44 18	2077	37 52 43	2069
	Regulus E.	80 14 21	2071	78 22 37	2059	76 30 35	2048	74 38 15	2037
5	Venus W.	117 8 34	2352	118 53 18	2344	120 38 13	2338	122 23 17	2333
	α Pegasi W.	89 40 48	2174	91 29 55	2167	93 19 13	2161	95 8 39	2157
	α Arietis W.	46 56 45	2019	48 49 50	2010	50 43 8	2003	52 36 38	1996
	Pollux E.	28 32 15	2046	26 39 53	2048	24 47 33	2052	22 55 19	2059
	Regulus E.	65 12 37	1991	63 18 49	1984	61 24 50	1979	59 30 42	1973
6	α Arietis W.	62 6 21	1975	64 0 34	1974	65 54 49	1974	67 49 4	1974
	Aldebaran W.	31 22 44	2219	33 10 43	2192	34 59 22	2171	36 48 33	2154
	Regulus E.	49 58 15	1958	48 3 34	1957	46 8 52	1958	44 14 11	1959
	Mars E.	100 32 12	2117	98 41 39	2116	96 51 4	2116	95 0 30	2117
7	α Arietis W.	77 19 43	1990	79 13 33	1996	81 7 14	2002	83 0 46	2009
	Aldebaran W.	45 59 29	2111	47 50 12	2108	49 40 59	2107	51 31 47	2109
	Regulus E.	34 41 38	1977	32 47 27	1984	30 53 27	1990	28 59 37	1998
	Mars E.	85 48 22	2135	83 58 16	2140	82 8 18	2148	80 18 32	2155
	Spica ♀ E.	88 44 23	1978	86 50 14	1984	84 56 14	1991	83 2 25	1998
8	α Arietis W.	92 25 7	2057	94 17 12	2069	96 8 59	2081	98 0 27	2094
	Aldebaran W.	60 44 34	2135	62 34 40	2143	64 24 33	2153	66 14 11	2164
	Regulus E.	19 34 7	2052	17 41 54	2067	15 50 4	2083	13 58 38	2101
	Mars E.	71 13 4	2208	69 24 48	2221	67 36 51	2234	65 49 14	2248
	Spica ♀ E.	73 36 38	2046	71 44 16	2059	69 52 13	2071	68 0 29	2084
9	Aldebaran W.	75 18 0	2228	77 5 46	2243	78 53 9	2258	80 40 10	2275
	Pollux W.	32 31 44	2192	34 20 24	2204	36 8 46	2218	37 56 47	2231
	Mars E.	56 56 48	2331	55 11 33	2349	53 26 45	2368	51 42 25	2387
	Spica ♀ E.	58 47 7	2159	56 57 37	2174	55 8 30	2192	53 19 50	2207

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
9	Jupiter E.	114 28 26 2175	112 39 20 2188	110 50 35 2202	109 2 11 2215			
10	Aldebaran W.	82 26 46 2292	84 12 58 2309	85 58 45 2326	87 44 6 2343			
	Pollux W.	39 44 28 2247	41 31 45 2262	43 18 40 2278	45 5 11 2293			
	Mars E.	49 58 32 2409	48 15 10 2429	46 32 17 2450	44 49 54 2471			
	Spica η E.	51 31 35 2226	49 43 46 2244	47 56 24 2262	46 9 29 2280			
	Antares E.	97 20 38 2218	95 32 37 2235	93 45 2 2253	91 57 54 2271			
	Jupiter E.	100 5 57 2299	98 19 56 2317	96 34 21 2334	94 49 11 2352			
	Saturn E.	117 1 58 2275	115 15 21 2291	113 29 8 2309	111 43 21 2327			
	Sun E.	140 3 54 2547	138 23 46 2565	136 44 3 2584	135 4 46 2602			
11	Pollux W.	53 51 29 2384	55 35 27 2402	57 18 59 2421	59 2 3 2440			
	Regulus W.	16 49 47 2378	18 33 53 2395	20 17 35 2414	22 0 50 2433			
	Mars E.	36 26 15 2598	34 47 17 2625	33 8 56 2655	31 31 15 2685			
	Spica η E.	37 21 56 2379	35 37 51 2399	33 54 15 2420	32 11 9 2441			
	Antares E.	83 9 5 2366	81 24 41 2386	79 40 46 2404	77 57 17 2423			
	Jupiter E.	86 10 7 2448	84 27 41 2467	82 45 41 2487	81 4 10 2507			
	Saturn E.	103 1 0 2419	101 17 53 2438	99 35 12 2457	97 52 59 2477			
	Sun E.	126 54 54 2702	125 18 17 2722	123 42 6 2743	122 6 23 2764			
12	Pollux W.	67 30 49 2534	69 11 15 2553	70 51 15 2571	72 30 50 2590			
	Regulus W.	30 30 40 2524	32 11 20 2543	33 51 34 2561	35 31 22 2580			
	Antares E.	69 26 47 2520	67 46 1 2540	66 5 43 2558	64 25 50 2577			
	Jupiter E.	72 43 24 2606	71 4 37 2626	69 26 17 2644	67 48 22 2663			
	Saturn E.	89 28 39 2574	87 49 8 2593	86 10 3 2612	84 31 24 2631			
	Sun E.	114 14 32 2866	112 41 29 2887	111 8 53 2907	109 36 43 2928			
13	Pollux W.	80 42 28 2680	82 19 35 2696	83 56 20 2714	85 32 41 2733			
	Regulus W.	43 44 7 2670	45 21 27 2687	46 58 25 2704	48 35 0 2723			
	Antares E.	56 12 47 2667	54 35 23 2686	52 58 24 2702	51 21 46 2721			
	Jupiter E.	59 45 21 2760	58 10 0 2779	56 35 4 2797	55 0 32 2817			
	Saturn E.	76 24 28 2723	74 48 19 2741	73 12 33 2758	71 37 10 2777			
	Sun E.	102 2 9 3025	100 32 27 3043	99 3 8 3062	97 34 12 3081			
14	Pollux W.	93 29 3 2811	95 3 17 2825	96 37 13 2839	98 10 50 2853			
	Regulus W.	56 32 28 2800	58 6 56 2814	59 41 6 2829	61 14 56 2843			
	Antares E.	43 24 7 2798	41 49 37 2814	40 15 27 2827	38 41 34 2841			
	Jupiter E.	47 13 40 2903	45 41 25 2920	44 9 31 2937	42 37 59 2955			
	Saturn E.	63 45 49 2858	62 12 36 2873	60 39 43 2888	59 7 9 2903			
	Sun E.	90 14 56 3166	88 48 6 3183	87 21 36 3198	85 55 24 3213			
15	Regulus W.	68 59 46 2907	70 31 56 2918	72 3 52 2931	73 35 32 2944			
	Spica η W.	15 9 5 2969	16 39 57 2970	18 10 48 2973	19 41 34 2977			
	Antares E.	30 56 37 2907	29 24 27 2918	27 52 31 2929	26 20 49 2940			
	Jupiter E.	35 5 33 3038	33 36 7 3054	32 7 1 3071	30 38 16 3088			
	Saturn E.	51 28 58 2974	49 58 12 2986	48 27 42 2999	46 57 28 3012			
	Sun E.	78 48 45 3283	77 24 14 3295	75 59 57 3308	74 35 55 3320			
16	Regulus W.	81 10 43 2989	82 41 10 2997	84 11 27 3004	85 41 35 3012			
	Spica η W.	27 13 44 3009	28 43 46 3014	30 13 41 3021	31 43 27 3029			
	Mars W.	27 8 36 3287	28 33 3 3283	29 57 35 3280	31 22 10 3277			
	Saturn E.	39 30 3 3071	38 1 18 3082	36 32 46 3092	35 4 27 3103			
	Sun E.	67 38 55 3372	66 16 6 3380	64 53 27 3389	63 30 58 3400			

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^b .	P.L. of diff.	XVIII ^b .	P.L. of diff.	XXI ^b .	P.L. of diff.
9	Jupiter E.	107° 14' 9" 2233		105° 26' 30" 2249		103° 39' 15" 2265		101° 52' 24" 2281	
10	Aldebaran W.	89 29 1 2363		91 13 29 2381		92 57 31 2401		94 41 5 2419	
	Pollux W.	46 51 17 2313		48 36 58 2331		50 22 14 2347		52 7 5 2366	
	Mars E.	43 8 3 2497		41 26 45 2521		39 46 1 2545		38 5 50 2571	
	Spica $\pi\eta$ E.	44 23 2 2300		42 37 3 2320		40 51 32 2339		39 6 29 2359	
	Antares E.	90 11 14 2291		88 25 1 2309		86 39 14 2328		84 53 56 2347	
	Jupiter E.	93 4 28 2371		91 20 12 2391		89 36 24 2409		87 53 2 2428	
	Saturn E.	109 58 0 2344		108 13 5 2362		106 28 36 2382		104 44 35 2400	
	SUN E.	133 25 54 2622		131 47 29 2642		130 9 31 2661		128 31 59 2681	
11	Pollux W.	60 44 41 2458		62 26 53 2477		64 8 38 2496		65 49 57 2515	
	Regulus W.	23 43 41 2450		25 26 5 2468		27 8 3 2487		28 49 35 2506	
	Mars E.	29 54 15 2717		28 17 58 2752		26 42 27 2791		25 7 47 2832	
	Spica $\pi\eta$ E.	30 28 33 2462		28 46 26 2484		27 4 50 2505		25 23 44 2528	
	Antares E.	76 14 16 2443		74 31 43 2463		72 49 37 2482		71 7 58 2502	
	Jupiter E.	79 23 6 2526		77 42 29 2546		76 2 20 2566		74 22 39 2585	
	Saturn E.	96 11 13 2496		94 29 54 2515		92 49 2 2535		91 8 38 2553	
	SUN E.	120 31 7 2784		118 56 18 2804		117 21 55 2825		115 48 0 2846	
12	Pollux W.	74 9 59 2608		75 48 43 2627		77 27 2 2644		79 4 57 2662	
	Regulus W.	37 10 44 2598		38 49 42 2617		40 28 14 2634		42 6 23 2652	
	Antares E.	62 46 23 2596		61 7 22 2614		59 28 46 2632		57 50 34 2650	
	Jupiter E.	66 10 54 2684		64 33 53 2703		62 57 17 2622		61 21 6 2741	
	Saturn E.	82 53 10 2649		81 15 22 2669		79 38 0 2687		78 1 2 2705	
	SUN E.	108 4 59 2946		106 33 39 2967		105 2 45 2986		103 32 15 3006	
13	Pollux W.	87 8 40 2747		88 44 17 2763		90 19 33 2779		91 54 28 2795	
	Regulus W.	50 11 12 2738		51 47 2 2753		53 22 32 2769		54 57 40 2785	
	Antares E.	49 45 32 2735		48 9 39 2752		46 34 8 2767		44 58 57 2783	
	Jupiter E.	53 26 24 2832		51 52 38 2851		50 19 16 2869		48 46 17 2886	
	Saturn E.	70 2 10 2793		68 27 33 2809		66 53 17 2825		65 19 22 2842	
	SUN E.	96 5 38 3098		94 37 26 3116		93 9 36 3133		91 42 6 3149	
14	Pollux W.	99 44 8 2867		101 17 9 2881		102 49 52 2894		104 22 18 2906	
	Regulus W.	62 48 28 2856		64 21 43 2870		65 54 40 2883		67 27 21 2894	
	Antares E.	37 8 1 2856		35 34 45 2869		34 1 46 2892		32 29 4 2894	
	Jupiter E.	41 6 48 2970		39 35 58 2987		38 5 29 3004		36 35 21 3020	
	Saturn E.	57 34 55 2918		56 2 59 2932		54 31 21 2946		53 0 1 2960	
	SUN E.	84 29 30 3228		83 3 54 3242		81 38 35 3256		80 13 32 3270	
15	Regulus W.	75 6 59 2950		76 38 14 2961		78 9 15 2970		79 40 5 2980	
	Spica $\pi\eta$ W.	21 12 15 2984		22 42 48 2989		24 13 15 2996		25 43 33 3002	
	Antares E.	24 49 21 2950		23 18 6 2961		21 47 4 2970		20 16 14 2980	
	Jupiter E.	29 9 53 3108		27 41 53 3127		26 14 16 3148		24 47 4 3170	
	Saturn E.	45 27 29 3024		43 57 46 3035		42 28 17 3047		40 59 3 3059	
	SUN E.	73 12 6 3331		71 48 30 3341		70 25 6 3352		69 1 55 3362	
16	Regulus W.	87 11 32 3019		88 41 21 3026		90 11 2 3032		91 40 35 3038	
	Spica $\pi\eta$ E.	33 13 6 3033		34 42 38 3039		36 12 3 3043		37 41 22 3049	
	Mars W.	32 46 48 3276		34 11 27 3276		35 36 7 3276		37 0 47 3276	
	Saturn E.	33 36 23 3116		32 8 33 3128		30 40 57 3139		29 13 35 3153	
	SUN E.	62 8 39 3405		60 46 28 3413		59 24 26 3419		58 2 31 3425	

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]
17	Regulus W.	93 10 1	3043	94 39 20	3049	96 8 32	3052	97 37 40
	Spica $\pi\gamma$ W.	39 10 34	3053	40 39 41	3058	42 8 42	3062	43 37 38
	Mars W.	38 25 27	3277	39 50 6	3277	41 14 45	3277	42 39 23
	Saturn E.	27 46 29	3166	26 19 39	3179	24 53 5	3195	23 26 50
	SUN E.	56 40 43	3432	55 19 3	3437	53 57 28	3442	52 35 59
18	Regulus W.	105 2 4	3074	106 30 46	3076	107 59 25	3078	109 28 1
	Spica $\pi\gamma$ W.	51 1 16	3080	52 29 50	3082	53 58 22	3083	55 26 52
	Mars W.	49 42 23	3280	51 6 58	3281	52 31 32	3280	53 56 7
	SUN E.	45 49 47	3465	44 28 44	3467	43 7 43	3470	41 46 45
19	Spica $\pi\gamma$ W.	62 49 3	3087	64 17 28	3087	65 45 53	3086	67 14 20
	Mars W.	60 59 9	3276	62 23 49	3275	63 48 30	3273	65 13 13
	Antares W.	16 55 31	3082	18 24 3	3083	19 52 34	3082	21 21 6
	SUN E.	35 2 19	3476	33 41 28	3476	32 20 37	3476	30 59 46
25	SUN W.	30 58 36	3252	32 23 44	3243	33 49 2	3235	35 14 30
	α Arietis E.	59 16 6	2898	57 43 44	2891	56 11 13	2884	54 38 34
	Aldebaran E.	91 21 21	2950	89 50 6	2942	88 18 40	2935	86 47 5
26	SUN W.	42 24 31	3179	43 51 5	3170	45 17 50	3161	46 44 46
	α Arietis E.	46 53 3	2842	45 19 30	2835	43 45 47	2828	42 11 56
	Aldebaran E.	79 6 43	2889	77 34 10	2880	76 1 26	2873	74 28 32
27	SUN W.	54 2 35	3097	55 30 48	3087	56 59 14	3075	58 27 54
	α Arietis E.	34 20 24	2789	32 45 41	2782	31 10 50	2778	29 35 53
	Aldebaran E.	66 41 32	2825	65 7 37	2818	63 33 32	2810	61 59 17
	Pollux E.	108 58 45	2751	107 23 13	2741	105 47 28	2730	104 11 28
28	SUN W.	65 54 54	3003	67 25 3	2989	68 55 29	2977	70 26 11
	α Pegasi W.	27 1 36	3663	28 19 3	3549	29 38 33	3450	30 59 53
	Venus W.	22 56 5	3106	24 24 7	3087	25 52 32	3070	27 21 18
	α Arietis E.	21 40 13	2775	20 5 12	2783	18 30 22	2798	16 55 51
	Aldebaran E.	54 5 32	2765	52 30 18	2759	50 54 56	2753	49 19 26
	Pollux E.	96 7 48	2663	94 30 19	2651	92 52 33	2640	91 14 32
29	SUN W.	78 3 53	2894	79 36 19	2881	81 9 2	2867	82 42 3
	α Pegasi W.	38 8 26	3047	39 37 41	3001	41 7 53	2958	42 38 59
	Venus W.	34 50 20	2971	36 21 9	2954	37 52 19	2939	39 23 48
	Aldebaran E.	41 20 17	2729	39 44 16	2729	38 8 14	2730	36 32 14
	Pollux E.	83 0 12	2564	81 20 28	2551	79 40 26	2539	78 0 7
30	SUN W.	90 31 56	2779	92 6 52	2763	93 42 9	2748	95 17 45
	α Pegasi W.	50 26 15	2752	52 1 46	2724	53 37 54	2697	55 14 38
	Venus W.	47 6 23	2842	48 39 56	2826	50 13 50	2811	51 48 4
	Pollux E.	69 33 48	2458	67 51 36	2444	66 9 4	2431	64 26 13
	Regulus E.	106 27 59	2445	104 45 28	2431	103 2 38	2417	101 19 28
31	SUN W.	103 20 51	2657	104 58 29	2642	106 36 27	2627	108 14 46
	α Pegasi W.	63 26 26	2558	65 6 19	2538	66 46 39	2518	68 27 27
	Venus W.	59 44 28	2716	61 20 47	2699	62 57 28	2684	64 34 29
	α Arietis W.	19 52 36	2457	21 34 50	2425	23 17 49	2397	25 1 28
	Pollux E.	55 47 8	2350	54 2 21	2337	52 17 15	2324	50 31 50
	Regulus E.	92 38 37	2333	90 53 26	2319	89 7 55	2305	87 22 3

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
		° ' "		° ' "		° ' "		° ' "	
17	Regulus W.	99 6 41	3061	100 35 38	3065	102 4 30	3068	103 33 19	3071
	Spica π W.	45 6 29	3069	46 35 16	3072	48 4 0	3076	49 32 39	3078
	Mars W.	44 4 0	3278	45 28 37	3279	46 53 13	3280	48 17 48	3280
	Saturn E.	22 0 56	3233	20 35 26	3255	19 10 22	3282	17 45 50	3317
	SUN E.	51 14 36	3451	49 53 17	3455	48 32 3	3459	47 10 53	3463
18	Regulus W.	110 56 36	3081	112 25 9	3082	113 53 41	3083	115 22 12	3083
	Spica π W.	56 55 20	3086	58 23 47	3087	59 52 12	3087	61 20 38	3087
	Mars W.	55 20 42	3280	56 45 17	3279	58 9 53	3277	59 34 31	3277
	SUN E.	40 25 49	3473	39 4 55	3474	37 44 2	3476	36 23 11	3475
19	Spica π W.	68 42 47	3084	70 11 16	3083	71 39 46	3082	73 8 18	3080
	Mars W.	66 37 59	3270	68 2 46	3267	69 27 36	3265	70 52 29	3262
	Antares W.	22 49 39	3080	24 18 13	3078	25 46 49	3077	27 15 27	3075
	SUN E.	29 38 55	3474	28 18 2	3474	26 57 9	3473	25 36 15	3472
25	SUN W.	36 40 9	3217	38 5 58	3207	39 31 59	3199	40 58 9	3189
	α Arietis E.	53 5 46	2870	51 32 49	2863	49 59 42	2856	48 26 27	2849
	Aldebaran E.	85 15 20	2919	83 43 25	2912	82 11 21	2904	80 39 7	2896
26	SUN W.	48 11 55	3140	49 39 16	3129	51 6 50	3119	52 34 36	3109
	α Arietis E.	40 37 55	2814	39 3 45	2808	37 29 27	2800	35 54 59	2794
	Aldebaran E.	72 55 29	2857	71 22 15	2849	69 48 51	2841	68 15 16	2834
27	SUN W.	59 56 49	3052	61 25 57	3039	62 55 21	3027	64 25 0	3015
	α Arietis E.	28 0 50	2769	26 25 42	2768	24 50 32	2768	23 15 22	2769
	Aldebaran E.	60 24 52	2794	58 50 16	2787	57 15 31	2779	55 40 36	2772
	Pollux E.	102 35 14	2708	100 58 45	2698	99 22 2	2686	97 45 3	2674
28	SUN W.	71 57 9	2950	73 28 24	2937	74 59 56	2923	76 31 46	2909
	α Pegasi W.	32 22 52	3285	33 47 21	3216	35 13 11	3154	36 40 15	3099
	Venus W.	28 50 24	3036	30 19 52	3019	31 49 41	3003	33 19 50	2986
	α Arietis E.	15 21 52	2859	13 48 40	2912	12 16 36	2998	10 46 21	3188
	Aldebaran E.	47 43 49	2741	46 8 4	2737	44 32 13	2733	42 56 17	2730
	Pollux E.	89 36 14	2615	87 57 39	2602	86 18 47	2590	84 39 38	2577
29	SUN W.	84 15 24	2838	85 49 3	2823	87 23 1	2808	88 57 19	2793
	α Pegasi W.	44 10 56	2880	45 43 41	2845	47 17 10	2812	48 51 22	2781
	Venus W.	40 55 38	2906	42 27 49	2891	44 0 20	2875	45 33 11	2859
	Aldebaran E.	34 56 18	2740	33 20 31	2748	31 44 55	2761	30 9 36	2779
	Pollux E.	76 19 28	2512	74 38 31	2499	72 57 16	2485	71 15 42	2471
30	SUN W.	96 53 41	2717	98 29 58	2702	100 6 35	2687	101 43 33	2672
	α Pegasi W.	56 51 55	2647	58 29 46	2624	60 8 9	2601	61 47 3	2580
	Venus W.	53 22 39	2779	54 57 35	2763	56 32 52	2747	58 8 29	2731
	Pollux E.	62 43 3	2403	60 59 33	2390	59 15 44	2376	57 31 35	2364
	Regulus E.	99 35 59	2389	97 52 9	2375	96 7 59	2361	94 23 28	2347
31	SUN W.	109 53 25	2597	111 32 24	2583	113 11 43	2569	114 51 21	2553
	α Pegasi W.	70 8 41	2481	71 50 21	2464	73 32 25	2446	75 14 54	2431
	Venus W.	66 11 50	2653	67 49 33	2638	69 27 36	2624	71 5 58	2611
	α Arietis W.	26 45 43	2348	28 30 32	2327	30 15 52	2308	32 1 40	2281
	Pollux E.	48 46 7	2298	47 0 5	2286	45 13 45	2275	43 27 8	2261
	Regulus E.	85 35 51	2278	83 49 19	2264	82 2 27	2251	80 15 16	2231




CONFIGURATIONS OF THE SATELLITES OF JUPITER

At 18^h 45^m, MEAN TIME.

Day of the Month.	<i>West.</i>			<i>East.</i>		
1		.4	.2	○	.1	.3
2		.4	.1	○	.2	.3
3			.4 2.	○	1.	3.
4			.2 .1	○	.4	
5		3.		○ 1.	.2	.4
6	.1 ●		.3	○	2.	.4
7			2. 3 1.	○		.4
8			.2	○	.1 3	4.
9			1.	○	.2 .3	4.
10				○	1.	3. 4.
11			.2 .1	○ 3.	4.	
12			3.	4. ○	.2 1.	
13		.3 4.		○	2.	
14		4.	.3 2.	○		
15		4.	.2	○	.1 3	
16		.4	1.	○	.2 .3	
17		.4		○ 2.	.1 3.	
18		.4	.2 .1	○ 3.		
19	.2 ●		.4 3.	○	1.	
20			.3	.1 ○	2.	
21			.3 2.	○	.4	
22			.2	○ .3 1		.4
23			1.	○	.2 .3	.4
24				○	2. 1	3. .4
25			2. .1	○	3.	4.
26	.2 ●		2.	○	1.	4.
27		3.	.1	○	2. 4.	
28		.3	2.	○ 1.	4.	
29	.1 ●		.2 4.	○ 3		
30		4.	1.	○	.2 .3	
31		4.		○	.1 2.	3.

This Table represents, at 18^h 45^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page; the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a Satellite is at its greatest elongation, the point is placed above or below the centre of the numeral. A white circle (○) at the left or right hand of the page, denotes that the Satellite placed by the side of the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *shadow* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

SATELLITE.	Day of the Month.	Mean Time.			Sidereal Time.			PHASE as seen in an inverting Telescope.	
		h	m	s	h	m	s		
I.	1	9	16	32.4	4	1	55.0	Im.	
	3	3	44	53.8	22	37	15.0	Im.	
	4	22	13	21.2	17	12	41.1	Im.	
	6	16	41	42.9	11	48	1.5	Im.	
	8	11	10	8.3	6	23	25.5	Im.	
	10	5	38	28.6	0	58	44.4	Im.	
	12	0	6	55.6	19	34	10.1	Im.	
	13*	18	35	16.7	14	9	29.8	Im.	<div>i</div> <div>*</div> 
	15	13	3	41.6	8	44	53.3	Im.	
	17	7	32	1.3	3	20	11.7	Im.	
	19	2	0	27.6	21	55	36.6	Im.	
	20	20	28	48.3	16	30	55.9	Im.	
	22	14	57	12.8	11	6	19.1	Im.	
	24	9	25	31.9	5	41	36.8	Im.	
	26	3	53	57.8	0	17	1.4	Im.	
	27	22	22	18.1	18	52	20.3	Im.	
	29	16	50	42.4	13	27	43.2	Im.	
	31	11	19	1.3	8	3	0.7	Im.	
II.	1	20	23	2.6	15	10	14.7	Im.	
	5	9	40	27.5	4	41	40.3	Im.	
	8	22	57	29.9	18	12	43.3	Im.	<div>i</div> <div>*</div> 
	12	12	14	46.5	7	44	0.6	Im.	
	16	1	31	44.3	21	14	59.0	Im.	
	19	14	48	52.8	10	46	8.1	Im.	
	23	4	5	46.2	0	17	2.0	Im.	
	26	17	22	47.2	13	48	3.7	Im.	
	30	6	39	36.5	3	18	53.6	Im.	
III.	0	23	19	9.9	18	2	54.4	Im.	
	1	1	33	22.7	20	17	29.2	Em.	
	8	3	17	0.3	22	28	59.7	Im.	<div>i</div> <div>*</div> <div>e</div> <div>*</div> 
	8	5	31	48.7	0	44	10.3	Em.	
	15	7	15	18.2	2	55	32.7	Im.	
	15	9	30	42.5	5	11	19.2	Em.	
	22	11	12	56.1	7	21	25.5	Im.	
	22	13	28	57.5	9	37	49.3	Em.	
	29	15	10	25.7	11	47	10.1	Im.	
	29*	17	27	4.7	14	4	11.6	Em.	

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
	d h m	d h m	d h m	d h m	d h m	d h
I.		1 6 54	2 2 5	2 4 19	2 1 24	2 3
		3 1 31	4 20 42	4 22 56	4 19 59	4 22
		5 20 8	5 15 19	5 17 33	5 14 34	5 16
		6 14 45	7 9 56	7 12 10	7 9 10	7 11
		8 9 22	9 4 33	9 6 46	9 3 45	9 5
		10 3 58	11 23 10	11 1 23	11 22 21	11 0
		12 22 35	12 17 46	13 20 0	12 16 56	12 19
	In	13 17 12	14 12 23	14* 14 37	14 11 31	14 13
		15 11 49	16 7 0	16 9 13	16 6 7	16 8
	the	17 6 25	18 1 36	18 3 50	18 0 42	18 2
		19 1 2	20 20 13	20 22 27	19 19 17	20 21
	Shadow.	20 19 39	21* 14 50	21 17 3	21 13 53	21 16
		22* 14 16	23 9 26	23 11 40	23 8 28	23 10
		24 8 52	25 4 3	25 6 16	25 3 3	25 5
		26 3 29	27 22 39	27 0 53	27 21 38	27 23
		28 22 5	28 17 16	28 19 29	28 16 14	28 18
		29 16 42	30 11 52	30* 14 6	30 10 49	30 13
		31 11 18				
II.		2 19 1	3 10 49	3 13 20	3 9 24	3 11
		5 8 39	7 0 26	7 2 58	7 22 56	7 1
	In	9 22 16	10* 14 3	10 16 35	10 12 27	10 14
		12 11 53	14 3 40	14 6 12	14 1 58	14 4
	the	16 1 30	17 17 17	17 19 50	17 15 30	17 18
		19 15 6	21 6 54	21 9 26	21 5 1	21 7
	Shadow.	23 4 42	25 20 30	25 23 3	24 18 33	25 21
		26 18 18	28 10 6	28 12 39	28 8 4	28 10
III.		30 7 54				
		1 20 37	1 23 11	4 11 14	4* 13 48	4 8 20
		8 1 29	8 4 3	11 16 4	11 18 38	11 12 46
		15 6 19	15 8 53	19 20 53	19 23 27	18 17 11
		22 11 7	22 13 41	26 1 40	26 4 14	26 21 38
		29 15 53	29 18 27			26 0

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h .051743.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D		Days.		
1	−0.5711	+1.3000	+9.3560	−0.8188	^h 5 ^m 17 ^s .01	285	0	.000
2	0.6074	1.2983	9.3632	0.8190	5 11 21 .10	286	1	.003
3	0.6408	1.2965	9.3703	0.8192	5 7 25 .19	287	2	.005
4	−0.6717	+1.2946	+9.3772	−0.8194	5 3 29 .27	288	3	.008
5	0.7004	1.2925	9.3840	0.8197	4 59 33 .35	289	4	.011
6	0.7272	1.2903	9.3906	0.8201	4 55 37 .44	290	5	.014
7	−0.7523	+1.2879	+9.3971	−0.8204	4 51 41 .53	291	6	.016
8	0.7759	1.2854	9.4035	0.8208	4 47 45 .61	292	7	.019
9	0.7981	1.2827	9.4098	0.8212	4 43 49 .70	293	8	.022
10	−0.8191	+1.2799	+9.4159	−0.8217	4 39 53 .79	294	9	.025
11	0.8391	1.2769	9.4219	0.8222	4 35 57 .88	295	10	.027
12	0.8580	1.2737	9.4278	0.8228	4 32 1 .96	296	11	.030
13	−0.8760	+1.2704	+9.4336	−0.8233	4 28 6 .05	297	12	.033
14	0.8931	1.2669	9.4393	0.8239	4 24 10 .14	298	13	.036
15	0.9095	1.2633	9.4448	0.8246	4 20 14 .23	299	14	.038
16	−0.9251	+1.2595	+9.4503	−0.8252	4 16 18 .32	300	15	.041
17	0.9401	1.2555	9.4556	0.8259	4 12 22 .40	301	16	.044
18	0.9544	1.2514	9.4609	0.8266	4 8 26 .49	302	17	.047
19	−0.9681	+1.2470	+9.4660	−0.8273	4 4 30 .58	303	18	.049
20	0.9813	1.2425	9.4710	0.8280	4 0 34 .67	304	19	.052
21	0.9940	1.2378	9.4760	0.8288	3 56 38 .76	305	20	.055
22	−1.0061	+1.2329	+9.4808	−0.8296	3 52 42 .85	306	21	.058
23	1.0178	1.2278	9.4856	0.8304	3 48 46 .93	307	22	.060
24	1.0291	1.2225	9.4902	0.8312	3 44 51 .02	308	23	.063
25	−1.0399	+1.2171	+9.4948	−0.8320	3 40 55 .11	309	24	.066
26	1.0504	1.2114	9.4993	0.8328	3 36 59 .20	310	25	.068
27	1.0604	1.2055	9.5036	0.8337	3 33 3 .29	311	26	.071
28	−1.0701	+1.1993	+9.5079	−0.8345	3 29 7 .38	312	27	.074
29	1.0794	1.1930	9.5122	0.8354	3 25 11 .47	313	28	.077
30	1.0884	1.1864	9.5163	0.8362	3 21 15 .56	314	29	.079
31	1.0971	1.1796	9.5203	0.8371	3 17 19 .65	315	30	.082
32	−1.1055	+1.1726	+9.5243	−0.8380	3 13 23 .73	316	31	.084

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Diff. for 1 hour.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.			
		h m s	s	° ' "	"	m s	m s	"
Mon.	1	21 0 4.93	10.161	S. 17 3 19.0	43.21	1 8.17	13 58.14	0.303
Tues.	2	21 4 8.79	10.126	16 46 2.0	43.93	1 8.05	14 5.42	0.269
Wed.	3	21 8 11.81	10.091	16 28 27.6	44.65	1 7.94	14 11.87	0.234
Thur.	4	21 12 14.00	10.057	16 10 36.1	45.33	1 7.82	14 17.49	0.200
Frid.	5	21 16 15.37	10.023	15 52 28.1	46.01	1 7.71	14 22.29	0.166
Sat.	6	21 20 15.92	9.989	15 34 3.8	46.67	1 7.59	14 26.27	0.132
Sun.	7	21 24 15.66	9.956	15 15 23.7	47.32	1 7.48	14 29.44	0.099
Mon.	8	21 28 14.60	9.923	14 56 28.0	47.95	1 7.36	14 31.82	0.067
Tues.	9	21 32 12.75	9.891	14 37 17.3	48.56	1 7.25	14 33.42	0.034
Wed.	10	21 36 10.13	9.859	14 17 51.8	49.15	1 7.14	14 34.24	0.002
Thur.	11	21 40 6.75	9.827	13 58 12.1	49.73	1 7.03	14 34.29	0.029
Frid.	12	21 44 2.60	9.796	13 38 18.5	50.30	1 6.92	14 33.59	0.060
Sat.	13	21 47 57.70	9.766	13 18 11.4	50.84	1 6.81	14 32.15	0.099
Sun.	14	21 51 52.08	9.736	12 57 51.3	51.37	1 6.71	14 29.98	0.129
Mon.	15	21 55 45.74	9.706	12 37 18.4	51.88	1 6.60	14 27.09	0.159
Tues.	16	21 59 38.68	9.677	12 16 33.3	52.37	1 6.50	14 23.48	0.179
Wed.	17	22 3 30.92	9.648	11 55 36.5	52.85	1 6.40	14 19.18	0.200
Thur.	18	22 7 22.47	9.620	11 34 28.2	53.30	1 6.30	14 14.19	0.223
Frid.	19	22 11 13.34	9.591	11 13 9.0	53.74	1 6.20	14 8.52	0.266
Sat.	20	22 15 3.53	9.564	10 51 39.3	54.16	1 6.10	14 2.18	0.299
Sun.	21	22 18 53.07	9.537	10 29 59.5	54.56	1 6.01	13 55.18	0.319
Mon.	22	22 22 41.96	9.511	10 8 10.0	54.94	1 5.92	13 47.54	0.349
Tues.	23	22 26 30.22	9.485	9 46 11.5	55.31	1 5.83	13 39.26	0.379
Wed.	24	22 30 17.85	9.459	9 24 4.1	55.66	1 5.74	13 30.36	0.399
Thur.	25	22 34 4.87	9.435	9 1 48.3	55.98	1 5.66	13 20.85	0.429
Frid.	26	22 37 51.30	9.410	8 39 24.7	56.30	1 5.58	13 10.76	0.449
Sat.	27	22 41 37.15	9.387	8 16 53.6	56.59	1 5.50	13 0.09	0.469
Sun.	28	22 45 22.44	9.365	7 54 15.4	56.87	1 5.42	12 48.85	0.499
Mon.	29	22 49 7.19		S. 7 31 30.5		1 5.34	12 37.08	

* Mean Time of the Semidiameter passing may be found by subtracting 0^m18 from the *Sidereal Time*

AT MEAN NOON.

	Day of the Month.	THE SUN'S			Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
n.	1	21 0 2.56	S. 17 3 29.0	16 14.8	13 58.06	20 46 4.49
es.	2	21 4 6.40	16 46 12.2	16 14.7	14 5.35	20 50 1.05
d.	3	21 8 9.42	16 28 38.1	16 14.5	14 11.81	20 53 57.61
ar.	4	21 12 11.60	16 10 46.8	16 14.4	14 17.44	20 57 54.16
d.	5	21 16 12.96	15 52 39.1	16 14.2	14 22.25	21 1 50.72
.	6	21 20 13.51	15 34 15.0	16 14.0	14 26.24	21 5 47.28
n.	7	21 24 13.25	15 15 35.0	16 13.8	14 29.41	21 9 43.83
n.	8	21 28 12.19	14 56 39.5	16 13.7	14 31.80	21 13 40.39
es.	9	21 32 10.35	14 37 29.0	16 13.5	14 33.41	21 17 36.94
d.	10	21 36 7.73	14 18 3.7	16 13.3	14 34.24	21 21 33.50
ur.	11	21 40 4.35	13 58 24.1	16 13.1	14 34.30	21 25 30.05
d.	12	21 44 0.21	13 38 30.7	16 12.9	14 33.60	21 29 26.61
t.	13	21 47 55.33	13 18 23.7	16 12.7	14 32.17	21 33 23.16
n.	14	21 51 49.73	12 58 3.6	16 12.5	14 30.01	21 37 19.72
n.	15	21 55 43.39	12 37 30.9	16 12.3	14 27.12	21 41 16.27
es.	16	21 59 36.35	12 16 45.9	16 12.0	14 23.52	21 45 12.83
d.	17	22 3 28.61	11 55 49.0	16 11.8	14 19.23	21 49 9.38
ur.	18	22 7 20.18	11 34 40.8	16 11.6	14 14.25	21 53 5.94
id.	19	22 11 11.07	11 13 21.6	16 11.4	14 8.58	21 57 2.49
t.	20	22 15 1.29	10 51 51.9	16 11.2	14 2.24	22 0 59.05
n.	21	22 18 50.85	10 30 12.1	16 11.0	13 55.25	22 4 55.60
n.	22	22 22 39.77	10 8 22.6	16 10.7	13 47.61	22 8 52.16
es.	23	22 26 28.05	9 46 24.0	16 10.5	13 39.34	22 12 48.71
d.	24	22 30 15.71	9 24 16.6	16 10.3	13 30.45	22 16 45.26
ur.	25	22 34 2.76	9 2 0.8	16 10.1	13 20.94	22 20 41.82
id.	26	22 37 49.23	8 39 37.1	16 9.8	13 10.86	22 24 38.37
t.	27	22 41 35.11	8 17 5.9	16 9.6	13 0.19	22 28 34.93
n.	28	22 45 20.43	7 54 27.5	16 9.3	12 48.95	22 32 31.48
on.	29	22 49 5.22	S. 7 31 42.5	16 9.1	12 37.18	22 36 28.04

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Para	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Mid
1	312 32 29 ⁸	N.0 ⁸⁰	9 ⁹⁹³⁷⁵⁴⁵	16 15 ⁹	16 21 ²	59 41 ²	60 ¹
2	313 33 19 ⁶	0 ⁷⁴	9 ⁹⁹³⁸²¹⁶	16 25 ⁸	16 29 ⁷	60 17 ⁷	60
3	314 34 8 ¹	0 ⁶⁴	9 ⁹⁹³⁸⁹⁰⁹	16 32 ⁸	16 34 ⁸	60 43 ²	60
4	315 34 55 ¹	0 ⁵³	9 ⁹⁹³⁹⁶²⁵	16 35 ⁵	16 35 ³	60 53 ³	60
5	316 35 40 ⁹	0 ⁴⁰	9 ⁹⁹⁴⁰³⁶⁶	16 33 ⁸	16 31 ¹	60 47 ⁰	60
6	317 36 25 ³	0 ²⁶	9 ⁹⁹⁴¹¹³¹	16 27 ⁴	16 22 ⁶	60 23 ⁴	60
7	318 37 8 ⁴	N.0 ¹³	9 ⁹⁹⁴¹⁹¹⁹	16 16 ⁸	16 10 ⁴	59 44 ⁷	59
8	319 37 50 ³	0 ⁰⁰	9 ⁹⁹⁴²⁷³¹	16 3 ⁴	15 56 ⁰	58 55 ⁵	58
9	320 38 31 ⁰	S.0 ¹¹	9 ⁹⁹⁴³⁵⁶⁵	15 48 ⁴	15 40 ⁸	58 0 ⁴	57
10	321 39 10 ⁵	0 ²⁰	9 ⁹⁹⁴⁴⁴²¹	15 33 ²	15 25 ⁹	57 4 ⁷	56
11	322 39 48 ⁸	0 ²⁷	9 ⁹⁹⁴⁵²⁹⁷	15 19 ⁰	15 12 ⁵	56 12 ⁴	55
12	323 40 25 ⁹	0 ³¹	9 ⁹⁹⁴⁶¹⁹³	15 6 ⁶	15 1 ⁴	55 27 ¹	55
13	324 41 1 ⁸	0 ³²	9 ⁹⁹⁴⁷¹⁰⁵	14 56 ⁸	14 52 ⁸	54 50 ⁹	54
14	325 41 36 ⁵	0 ³¹	9 ⁹⁹⁴⁸⁰³⁴	14 49 ⁶	14 47 ¹	54 24 ⁶	54
15	326 42 10 ⁰	0 ²⁵	9 ⁹⁹⁴⁸⁹⁷⁷	14 45 ³	14 44 ¹	54 8 ⁷	54
16	327 42 42 ²	0 ¹⁸	9 ⁹⁹⁴⁹⁹³²	14 43 ⁶	14 43 ⁶	54 2 ⁵	54
17	328 43 13 ¹	S.0 ⁰⁸	9 ⁹⁹⁵⁰⁹⁰⁰	14 44 ²	14 45 ⁴	54 4 ⁹	54
18	329 43 42 ⁶	N.0 ⁰⁴	9 ⁹⁹⁵¹⁸⁷⁷	14 47 ⁰	14 49 ⁰	54 15 ⁰	54
19	330 44 10 ⁶	0 ¹⁷	9 ⁹⁹⁵²⁸⁶³	14 51 ⁴	14 54 ¹	54 31 ¹	54
20	331 44 37 ⁰	0 ³⁰	9 ⁹⁹⁵³⁸⁵⁷	14 57 ¹	15 0 ³	54 52 ⁰	55
21	332 45 1 ⁸	0 ⁴³	9 ⁹⁹⁵⁴⁸⁵⁸	15 3 ⁷	15 7 ³	55 16 ³	55
22	333 45 24 ⁹	0 ⁵⁵	9 ⁹⁹⁵⁵⁸⁶⁷	15 11 ⁰	15 14 ⁹	55 43 ¹	55
23	334 45 46 ¹	0 ⁶⁵	9 ⁹⁹⁵⁶⁸⁸³	15 18 ⁸	15 22 ⁸	56 11 ⁸	56
24	335 46 5 ⁶	0 ⁷²	9 ⁹⁹⁵⁷⁹⁰⁷	15 26 ⁹	15 31 ⁰	56 41 ⁴	56
25	336 46 23 ¹	0 ⁷⁸	9 ⁹⁹⁵⁸⁹³⁸	15 35 ¹	15 39 ³	57 11 ⁷	57
26	337 46 38 ⁵	0 ⁸⁰	9 ⁹⁹⁵⁹⁹⁷⁸	15 43 ⁶	15 47 ⁹	57 42 ⁸	57
27	338 46 51 ⁹	0 ⁷⁹	9 ⁹⁹⁶¹⁰²⁷	15 52 ¹	15 56 ³	58 14 ⁰	58
28	339 47 3 ²	0 ⁷⁶	9 ⁹⁹⁶²⁰⁸⁷	16 0 ⁴	16 4 ⁵	58 44 ⁵	58
29	340 47 12 ⁵	N.0 ⁶⁹	9 ⁹⁹⁶³¹⁵⁸	16 8 ³	16 11 ⁸	59 13 ³	59

MEAN TIME.

THE MOON'S

Day of the Week.	Day of the Month.	Longitude.		Latitude.		Age.	Meridian
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.
		[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	^d	^h ^m
on.	1	69 10 13.1	76 24 44.8	N.4 56 19.3	N.4 39 38.5	9.8	8 0.6
es.	2	83 43 39.1	91 6 19.5	4 18 15.0	3 52 25.2	10.8	9 5.4
ed.	3	98 32 3.2	105 59 57.8	3 22 29.4	2 48 58.3	11.8	10 10.3
ur.	4	113 29 7.3	120 58 29.3	2 12 26.2	1 33 36.2	12.8	11 12.5
id.	5	128 27 1.5	135 53 40.1	N.0 53 12.9	N.0 12 5.5	13.8	12 10.2
t.	6	143 17 25.3	150 37 21.0	S.0 28 59.0	S.1 9 12.9	14.8	13 3.5
m.	7	157 52 39.0	165 2 37.1	1 47 54.1	2 24 23.1	15.8	13 53.2
on.	8	172 6 43.6	179 4 35.8	2 58 8.1	3 28 43.0	16.8	14 40.5
es.	9	185 56 0.5	192 40 53.0	3 55 47.8	4 19 8.0	17.8	15 26.7
ed.	10	199 19 17.4	205 51 24.6	4 38 35.5	4 54 5.1	18.8	16 12.9
ur.	11	212 17 33.2	218 38 5.0	5 5 37.1	5 13 13.7	19.8	17 0.0
id.	12	224 53 27.9	231 4 12.0	5 16 59.7	5 17 1.9	20.8	17 48.6
t.	13	237 10 50.6	243 13 58.1	5 13 27.7	5 6 26.3	21.8	18 38.6
m.	14	249 14 9.3	255 12 0.1	4 56 6.5	4 42 38.7	22.8	19 29.5
on.	15	261 8 5.1	267 2 59.1	4 26 12.9	4 7 0.1	23.8	20 20.6
es.	16	272 57 14.9	278 51 24.6	3 45 12.0	3 21 0.7	24.8	21 10.8
ed.	17	284 45 57.8	290 41 22.6	2 54 38.9	2 26 21.1	25.8	21 59.3
ur.	18	296 38 4.6	302 36 26.8	1 56 22.4	1 24 59.6	26.8	22 45.8
id.	19	308 36 49.8	314 39 32.1	S.0 52 29.9	S.0 19 13.5	27.8	23 30.4
t.	20	320 44 49.7	326 52 54.9	N.0 14 29.4	N.0 48 16.6	28.8	♂
m.	21	333 3 58.2	339 18 8.8	1 21 45.3	1 54 30.7	0.0	0 13.5
on.	22	345 35 32.2	351 56 13.4	2 26 8.6	2 56 13.4	1.0	0 55.9
es.	23	358 20 15.1	4 47 38.9	3 24 20.8	3 50 5.6	2.0	1 38.5
ed.	24	11 18 26.3	17 52 36.7	4 13 4.7	4 32 55.8	3.0	2 22.5
ur.	25	24 30 10.8	31 11 7.1	4 49 18.0	5 1 53.2	4.0	3 8.8
id.	26	37 55 25.0	44 43 2.8	5 10 25.8	5 14 42.6	5.0	3 58.8
t.	27	51 33 59.1	58 28 9.7	5 14 34.0	5 9 53.9	6.0	4 53.0
m.	28	65 25 31.9	72 25 58.3	5 0 39.7	4 46 54.0	7.0	5
on.	29	79 29 22.2	86 35 31.5	N.4 28 42.6	N.4 6 17.7	8.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour	Right Ascension.	Declination.
MONDAY 1.				WEDNESDAY 3.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	4 26 31.57	N.26 43 29.9	44.12	0	6 38 7.89	N.26 33 16.3
1	4 29 11.26	26 47 54.6	42.32	1	6 40 52.93	26 28 4.2
2	4 31 51.31	26 52 8.5	40.48	2	6 43 37.80	26 22 40.1
3	4 34 31.72	26 56 11.4	38.63	3	6 46 22.49	26 17 4.1
4	4 37 12.47	27 0 3.2	36.80	4	6 49 6.98	26 11 16.2
5	4 39 53.55	27 3 44.0	34.93	5	6 51 51.26	26 5 16.5
6	4 42 34.96	27 7 13.6	33.05	6	6 54 35.33	25 59 5.0
7	4 45 16.68	27 10 31.9	31.18	7	6 57 19.17	25 52 41.8
8	4 47 58.71	27 13 39.0	29.28	8	7 0 2.78	25 46 6.9
9	4 50 41.04	27 16 34.7	27.35	9	7 2 46.15	25 39 20.5
10	4 53 23.67	27 19 18.8	25.45	10	7 5 29.26	25 32 22.6
11	4 56 6.57	27 21 51.5	23.50	11	7 8 12.11	25 25 13.3
12	4 58 49.75	27 24 12.5	21.43	12	7 10 54.68	25 17 52.6
13	5 1 33.19	27 26 21.1	19.47	13	7 13 36.98	25 10 20.6
14	5 4 16.87	27 28 17.9	17.48	14	7 16 18.98	25 2 37.4
15	5 7 0.80	27 30 2.8	15.50	15	7 19 0.69	24 54 43.1
16	5 9 44.95	27 31 35.8	13.50	16	7 21 42.09	24 46 37.8
17	5 12 29.31	27 32 56.8	11.48	17	7 24 23.18	24 38 21.6
18	5 15 13.88	27 34 5.7	9.48	18	7 27 3.95	24 29 54.6
19	5 17 58.65	27 35 2.6	7.45	19	7 29 44.39	24 21 16.8
20	5 20 43.60	27 35 47.3	5.43	20	7 32 24.49	24 12 28.4
21	5 23 28.72	27 36 19.9	3.40	21	7 35 4.25	24 3 29.5
22	5 26 14.00	27 36 40.3	1.35	22	7 37 43.66	23 54 20.1
23	5 28 59.42	N.27 36 48.4	0.68	23	7 40 22.72	N.23 45 0.4
TUESDAY 2.				THURSDAY 4.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	5 31 44.99	N.27 36 44.3	2.73	0	7 43 1.41	N.23 35 30.5
1	5 34 30.68	27 36 27.9	4.78	1	7 45 39.73	23 25 50.5
2	5 37 16.48	27 35 59.2	6.83	2	7 48 17.68	23 16 0.5
3	5 40 2.38	27 35 18.2	8.90	3	7 50 55.25	23 6 0.7
4	5 42 48.36	27 34 24.8	10.97	4	7 53 32.43	22 55 51.0
5	5 45 34.42	27 33 19.0	13.03	5	7 56 9.22	22 45 31.7
6	5 48 20.55	27 32 0.8	15.10	6	7 58 45.62	22 35 2.8
7	5 51 6.72	27 30 30.2	17.17	7	8 1 21.62	22 24 24.5
8	5 53 52.94	27 28 47.2	19.23	8	8 3 57.22	22 13 36.9
9	5 56 39.18	27 26 51.8	21.32	9	8 6 32.41	22 2 40.0
10	5 59 25.44	27 24 43.9	23.37	10	8 9 7.19	21 51 34.1
11	6 2 11.70	27 22 23.7	25.45	11	8 11 41.56	21 40 19.2
12	6 4 57.96	27 19 51.0	27.53	12	8 14 15.51	21 28 55.4
13	6 7 44.19	27 17 5.8	29.58	13	8 16 49.04	21 17 22.9
14	6 10 30.39	27 14 8.3	31.65	14	8 19 22.15	21 5 41.8
15	6 13 16.55	27 10 58.4	33.72	15	8 21 54.84	20 53 52.2
16	6 16 2.64	27 7 36.1	35.77	16	8 24 27.10	20 41 54.3
17	6 18 48.66	27 4 1.5	37.83	17	8 26 58.93	20 29 48.2
18	6 21 34.60	27 0 14.5	39.87	18	8 29 30.33	20 17 34.0
19	6 24 20.45	26 56 15.3	41.90	19	8 32 1.30	20 5 11.9
20	6 27 6.20	26 52 3.9	43.95	20	8 34 31.83	19 52 41.9
21	6 29 51.82	26 47 40.2	45.97	21	8 37 1.93	19 40 4.2
22	6 32 37.32	26 43 4.4	48.00	22	8 39 31.60	19 27 19.0
23	6 35 22.68	26 38 16.4	50.02	23	8 42 0.83	19 14 26.3
24	6 38 7.89	N.26 33 16.3		24	8 44 29.63	N.19 1 26.3

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 5.				SUNDAY 7.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	8 44 29.63	N. 19 1 26.3	131.18	0	10 35 29.62	N. 6 57 14.6	163.17
1	8 46 57.99	18 48 19.2	132.35	1	10 37 39.62	6 40 55.6	163.35
2	8 49 25.90	18 35 5.1	133.50	2	10 39 49.33	6 24 35.5	163.50
3	8 51 53.38	18 21 44.1	134.63	3	10 41 58.76	6 8 14.5	163.65
4	8 54 20.43	18 8 16.3	135.75	4	10 44 7.91	5 51 52.6	163.77
5	8 56 47.04	17 54 41.8	136.82	5	10 46 16.79	5 35 30.0	163.87
6	8 59 13.21	17 41 0.9	137.88	6	10 48 25.40	5 19 6.8	163.95
7	9 1 38.95	17 27 13.6	138.92	7	10 50 33.75	5 2 43.1	164.02
8	9 4 4.25	17 13 20.1	139.95	8	10 52 41.84	4 46 19.0	164.08
9	9 6 29.13	16 59 20.4	140.93	9	10 54 49.68	4 29 54.5	164.12
10	9 8 53.57	16 45 14.8	141.92	10	10 56 57.27	4 13 29.8	164.13
11	9 11 17.58	16 31 3.3	142.87	11	10 59 4.62	3 57 5.0	164.13
12	9 13 41.16	16 16 46.1	143.80	12	11 1 11.73	3 40 40.2	164.13
13	9 16 4.32	16 2 23.3	144.70	13	11 3 18.61	3 24 15.4	164.08
14	9 18 27.05	15 47 55.1	145.60	14	11 5 25.26	3 7 50.9	164.07
15	9 20 49.36	15 33 21.5	146.45	15	11 7 31.69	2 51 26.5	163.98
16	9 23 11.26	15 18 42.8	147.28	16	11 9 37.90	2 35 2.6	163.92
17	9 25 32.73	15 3 59.1	148.12	17	11 11 43.90	2 18 39.1	163.83
18	9 27 53.79	14 49 10.4	148.92	18	11 13 49.69	2 2 16.1	163.72
19	9 30 14.44	14 34 16.9	149.68	19	11 15 55.28	1 45 53.8	163.60
20	9 32 34.69	14 19 18.8	150.43	20	11 18 0.67	1 29 32.2	163.47
21	9 34 54.52	14 4 16.2	151.18	21	11 20 5.87	1 13 11.4	163.30
22	9 37 13.95	13 49 9.1	151.88	22	11 22 10.88	0 56 51.6	163.15
23	9 39 32.98	N. 13 33 57.8	152.57	23	11 24 15.71	N. 0 40 32.7	162.97
SATURDAY 6.				MONDAY 8.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 41 51.61	N. 13 18 42.4	153.23	0	11 26 20.36	N. 0 24 14.9	162.77
1	9 44 9.85	13 3 23.0	153.87	1	11 28 24.84	N. 0 7 58.3	162.57
2	9 46 27.70	12 47 59.8	154.52	2	11 30 29.15	S. 0 8 17.1	162.33
3	9 48 45.16	12 32 32.7	155.12	3	11 32 33.30	0 24 31.1	162.10
4	9 51 2.24	12 17 2.1	155.67	4	11 34 37.29	0 40 43.7	161.85
5	9 53 18.93	12 1 28.0	156.25	5	11 36 41.13	0 56 54.8	161.60
6	9 55 35.26	11 45 50.5	156.80	6	11 38 44.82	1 13 4.4	161.30
7	9 57 51.21	11 30 9.7	157.32	7	11 40 48.36	1 29 12.2	161.02
8	10 0 6.79	11 14 25.8	157.82	8	11 42 51.78	1 45 18.3	160.72
9	10 2 22.01	10 58 38.9	158.30	9	11 44 55.06	2 1 22.6	160.40
10	10 4 36.88	10 42 49.1	158.77	10	11 46 58.20	2 17 25.0	160.07
11	10 6 51.38	10 26 56.5	159.20	11	11 49 1.22	2 33 25.4	159.72
12	10 9 5.53	10 11 1.3	159.63	12	11 51 4.12	2 49 23.7	159.37
13	10 11 19.34	9 55 3.5	160.03	13	11 53 6.91	3 5 19.9	159.00
14	10 13 32.80	9 39 3.3	160.40	14	11 55 9.59	3 21 13.9	158.62
15	10 15 45.93	9 23 0.9	160.78	15	11 57 12.17	3 37 5.6	158.22
16	10 17 58.73	9 6 56.2	161.12	16	11 59 14.65	3 52 54.9	157.82
17	10 20 11.19	8 50 49.5	161.43	17	12 1 17.03	4 8 41.8	157.1
18	10 22 23.33	8 34 40.9	161.75	18	12 3 19.33	4 24 26.2	156
19	10 24 35.15	8 18 30.4	162.03	19	12 5 21.53	4 40 8.0	156
20	10 26 46.66	8 2 18.2	162.30	20	12 7 23.66	4 55 47.2	156
21	10 28 57.85	7 46 4.4	162.53	21	12 9 25.71	5 11 23.7	156
22	10 31 8.74	7 29 49.2	162.78	22	12 11 27.68	5 26 57.3	156
23	10 33 19.33	7 13 32.5	162.98	23	12 13 29.59	5 42 28.1	156
24	10 35 29.62	N. 6 57 14.6		24	12 15 31.43	S. 5 57 56.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
<i>TUESDAY 9.</i>				<i>THURSDAY 11.</i>		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	12 15 31.43	S. 5 57 56.0	154.15	0	13 53 4.70	S. 17 3 21.7
1	12 17 33.22	6 13 20.9	153.63	1	13 55 8.17	17 15 15.6
2	12 19 34.95	6 28 42.7	153.12	2	13 57 11.74	17 27 4.0
3	12 21 36.63	6 44 1.4	152.58	3	13 59 15.43	17 38 46.6
4	12 23 38.27	6 59 16.9	152.05	4	14 1 19.23	17 50 23.6
5	12 25 39.86	7 14 29.2	151.48	5	14 3 23.14	18 1 54.8
6	12 27 41.42	7 29 38.1	150.93	6	14 5 27.18	18 13 20.3
7	12 29 42.95	7 44 43.7	150.35	7	14 7 31.33	18 24 39.9
8	12 31 44.44	7 59 45.8	149.77	8	14 9 35.60	18 35 53.7
9	12 33 45.92	8 14 44.4	149.18	9	14 11 40.00	18 47 1.6
10	12 35 47.37	8 29 39.5	148.57	10	14 13 44.52	18 58 3.5
11	12 37 48.81	8 44 30.9	147.97	11	14 15 49.17	19 8 59.5
12	12 39 50.23	8 59 18.7	147.33	12	14 17 53.94	19 19 49.4
13	12 41 51.65	9 14 2.7	146.72	13	14 19 58.85	19 30 33.3
14	12 43 53.06	9 28 43.0	146.07	14	14 22 3.89	19 41 11.0
15	12 45 54.48	9 43 19.4	145.40	15	14 24 9.06	19 51 42.6
16	12 47 55.90	9 57 51.8	144.75	16	14 26 14.36	20 2 8.1
17	12 49 57.32	10 12 20.3	144.08	17	14 28 19.80	20 12 27.3
18	12 51 58.76	10 26 44.8	143.38	18	14 30 25.38	20 22 40.3
19	12 54 0.22	10 41 5.1	142.72	19	14 32 31.09	20 32 46.9
20	12 56 1.69	10 55 21.4	142.00	20	14 34 36.94	20 42 47.3
21	12 58 3.19	11 9 33.4	141.28	21	14 36 42.93	20 52 41.2
22	13 0 4.71	11 23 41.1	140.58	22	14 38 49.06	21 2 28.8
23	13 2 6.27	S. 11 37 44.6	139.85	23	14 40 55.33	S. 21 12 9.9
<i>WEDNESDAY 10.</i>				<i>FRIDAY 12.</i>		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	13 4 7.85	S. 11 51 43.7	139.10	0	14 43 1.74	S. 21 21 44.5
1	13 6 9.47	12 5 38.3	138.37	1	14 45 8.29	21 31 12.6
2	13 8 11.14	12 19 28.5	137.62	2	14 47 14.98	21 40 34.2
3	13 10 12.85	12 33 14.2	136.85	3	14 49 21.82	21 49 49.1
4	13 12 14.61	12 46 55.3	136.07	4	14 51 28.80	21 58 57.5
5	13 14 16.42	13 0 31.7	135.30	5	14 53 35.92	22 7 59.2
6	13 16 18.28	13 14 3.5	134.52	6	14 55 43.18	22 16 54.2
7	13 18 20.21	13 27 30.6	133.70	7	14 57 50.59	22 25 42.4
8	13 20 22.19	13 40 52.8	132.92	8	14 59 58.15	22 34 23.9
9	13 22 24.23	13 54 10.3	132.10	9	15 2 5.84	22 42 58.6
10	13 24 26.35	14 7 22.9	131.28	10	15 4 13.68	22 51 26.5
11	13 26 28.53	14 20 30.6	130.45	11	15 6 21.67	22 59 47.5
12	13 28 30.80	14 33 33.3	129.62	12	15 8 29.79	23 8 1.6
13	13 30 33.14	14 46 31.0	128.78	13	15 10 38.06	23 16 8.8
14	13 32 35.56	14 59 23.7	127.92	14	15 12 46.47	23 24 9.0
15	13 34 38.06	15 12 11.2	127.07	15	15 14 55.03	23 32 2.2
16	13 36 40.64	15 24 53.6	126.20	16	15 17 3.73	23 39 48.4
17	13 38 43.32	15 37 30.8	125.33	17	15 19 12.56	23 47 27.5
18	13 40 46.08	15 50 2.8	124.43	18	15 21 21.54	23 54 59.6
19	13 42 48.94	16 2 29.4	123.57	19	15 23 30.66	24 2 24.6
20	13 44 51.89	16 14 50.8	122.65	20	15 25 39.92	24 9 42.4
21	13 46 54.94	16 27 6.7	121.75	21	15 27 49.31	24 16 53.0
22	13 48 58.09	16 39 17.2	120.83	22	15 29 58.84	24 23 56.4
23	13 51 1.34	16 51 22.2	119.92	23	15 32 8.50	24 30 52.6
24	13 53 4.70	S. 17 3 21.7		24	15 34 18.30	S. 24 37 41.6

MEAN TIME.

MOON'S RIGHT ASCENSION AND DECLINATION.

Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 13.			MONDAY 15.			
18 ^h 30 ^m	S. 24 ^o 37 ['] 41 ["] 6	66 ["] 95	0	17 ^h 20 ^m 3 ^s 93	S. 27 ^o 35 ['] 30 ["] 8	4 ["] 93
28 ^h 23 ^m	24 44 23 3	65 ["] 73	1	17 22 17 34	27 36 0 4	3 ["] 60
18 ^h 29 ^m	24 50 57 7	64 ["] 50	2	17 24 30 74	27 36 22 0	2 ["] 28
18 ^h 49 ^m	24 57 24 7	63 ["] 28	3	17 26 44 13	27 36 35 7	0 ["] 95
18 ^h 80 ^m	25 3 44 4	62 ["] 05	4	17 28 57 50	27 36 41 4	0 ["] 38
9 ^h 25 ^m	25 9 56 7	60 ["] 82	5	17 31 10 85	27 36 39 1	1 ["] 70
9 ^h 82 ^m	25 16 1 6	59 ["] 57	6	17 33 24 18	27 36 28 9	3 ["] 03
10 ^h 52 ^m	25 21 59 0	58 ["] 33	7	17 35 37 48	27 36 10 7	4 ["] 35
11 ^h 33 ^m	25 27 49 0	57 ["] 07	8	17 37 50 74	27 35 44 6	5 ["] 68
12 ^h 27 ^m	25 33 31 4	55 ["] 83	9	17 40 3 97	27 35 10 5	7 ["] 00
3 ^h 32 ^m	25 39 6 4	54 ["] 57	10	17 42 17 16	27 34 28 5	8 ["] 38
14 ^h 49 ^m	25 44 33 8	53 ["] 32	11	17 44 30 30	27 33 38 5	9 ["] 63
25 ^h 76 ^m	25 49 53 7	52 ["] 05	12	17 46 43 39	27 32 40 7	10 ["] 97
17 ^h 15 ^m	25 55 6 0	50 ["] 77	13	17 48 56 43	27 31 34 9	12 ["] 27
18 ^h 65 ^m	26 0 10 6	49 ["] 52	14	17 51 9 42	27 30 21 3	13 ["] 60
0 ^h 26 ^m	26 5 7 7	48 ["] 22	15	17 53 22 34	27 28 59 7	14 ["] 90
1 ^h 97 ^m	26 9 57 0	46 ["] 97	16	17 55 35 21	27 27 30 3	16 ["] 22
23 ^h 78 ^m	26 14 38 8	45 ["] 67	17	17 57 48 01	27 25 53 0	17 ["] 53
15 ^h 69 ^m	26 19 12 8	44 ["] 38	18	18 0 0 73	27 24 7 8	18 ["] 83
17 ^h 69 ^m	26 23 39 1	43 ["] 12	19	18 2 13 38	27 22 14 8	20 ["] 13
19 ^h 79 ^m	26 27 57 8	41 ["] 80	20	18 4 25 96	27 20 14 0	21 ["] 45
11 ^h 98 ^m	26 32 8 6	40 ["] 53	21	18 6 38 45	27 18 5 3	22 ["] 73
24 ^h 26 ^m	26 36 11 8	39 ["] 22	22	18 8 50 85	27 15 48 9	24 ["] 03
26 ^h 63 ^m	S. 26 40 7 1	37 ["] 93	23	18 11 3 17	S. 27 13 24 7	25 ["] 33
SUNDAY 14.			TUESDAY 16.			
19 ^h 07 ^m	S. 26 43 54 7	36 ["] 63	0	18 13 15 39	S. 27 10 52 7	26 ["] 62
1 ^h 60 ^m	26 47 34 5	35 ["] 33	1	18 15 27 52	27 8 13 0	27 ["] 92
14 ^h 20 ^m	26 51 6 5	34 ["] 02	2	18 17 39 55	27 5 25 5	29 ["] 20
26 ^h 88 ^m	26 54 30 6	32 ["] 72	3	18 19 51 48	27 2 30 3	30 ["] 48
19 ^h 62 ^m	26 57 46 9	31 ["] 42	4	18 22 3 30	26 59 27 4	31 ["] 75
12 ^h 43 ^m	27 0 55 4	30 ["] 08	5	18 24 15 01	26 56 16 9	33 ["] 03
5 ^h 31 ^m	27 3 55 9	28 ["] 78	6	18 26 26 61	26 52 58 7	34 ["] 30
18 ^h 25 ^m	27 6 48 6	27 ["] 47	7	18 28 38 09	26 49 32 9	35 ["] 58
31 ^h 24 ^m	27 9 33 4	26 ["] 17	8	18 30 49 45	26 45 59 4	36 ["] 83
14 ^h 29 ^m	27 12 10 4	24 ["] 83	9	18 33 0 69	26 42 18 4	38 ["] 10
17 ^h 38 ^m	27 14 39 4	23 ["] 50	10	18 35 11 81	26 38 29 8	39 ["] 35
10 ^h 52 ^m	27 17 0 4	22 ["] 20	11	18 37 22 79	26 34 33 7	40 ["] 62
23 ^h 70 ^m	27 19 13 6	20 ["] 87	12	18 39 33 64	26 30 30 0	41 ["] 87
36 ^h 93 ^m	27 21 18 8	19 ["] 55	13	18 41 44 36	26 26 18 8	43 ["] 10
50 ^h 18 ^m	27 23 16 1	18 ["] 22	14	18 43 54 94	26 22 0 2	44 ["] 33
3 ^h 47 ^m	27 25 5 4	16 ["] 90	15	18 46 5 38	26 17 34 2	45 ["]
16 ^h 79 ^m	27 26 46 8	15 ["] 57	16	18 48 15 67	26 13 0 7	4 ["]
30 ^h 14 ^m	27 28 20 2	14 ["] 23	17	18 50 25 82	26 8 19 8	
13 ^h 50 ^m	27 29 45 6	12 ["] 92	18	18 52 35 82	26 3 31 6	
56 ^h 89 ^m	27 31 3 1	11 ["] 58	19	18 54 45 67	25 58 36 1	
10 ^h 28 ^m	27 32 12 6	10 ["] 25	20	18 56 55 37	25 53 33 2	
23 ^h 69 ^m	27 33 14 1	8 ["] 92	21	18 59 4 91	25 48 23 1	
37 ^h 10 ^m	27 34 7 6	7 ["] 60	22	19 1 14 29	25 43 5 8	
50 ^h 52 ^m	27 34 53 2	6 ["] 27	23	19 3 23 51	25 37 41 4	
3 ^h 93 ^m	S. 27 35 30 8		24	19 5 32 56	S. 25 32 9	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
<i>WEDNESDAY 17.</i>				<i>FRIDAY 19.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	19 5 32.56	S. 25 32 9.5	56.48	0	20 45 8.86	S. 18 58 10.6
1	19 7 41.45	25 26 30.6	57.65	1	20 47 8.65	18 47 34.3
2	19 9 50.18	25 20 44.7	58.85	2	20 49 8.25	18 36 52.9
3	19 11 58.73	25 14 51.6	60.02	3	20 51 7.67	18 26 6.4
4	19 14 7.11	25 8 51.5	61.18	4	20 53 6.90	18 15 14.8
5	19 16 15.32	25 2 44.4	62.33	5	20 55 5.96	18 4 18.3
6	19 18 23.35	24 56 30.4	63.52	6	20 57 4.83	17 53 16.9
7	19 20 31.21	24 50 9.3	64.65	7	20 59 3.53	17 42 10.6
8	19 22 38.89	24 43 41.4	65.80	8	21 1 2.06	17 30 59.5
9	19 24 46.38	24 37 6.6	66.93	9	21 3 0.41	17 19 43.6
10	19 26 53.70	24 30 25.0	68.08	10	21 4 58.59	17 8 22.9
11	19 29 0.83	24 23 36.5	69.20	11	21 6 56.59	16 56 57.6
12	19 31 7.77	24 16 41.3	70.32	12	21 8 54.42	16 45 27.6
13	19 33 14.53	24 9 39.4	71.45	13	21 10 52.09	16 33 53.0
14	19 35 21.10	24 2 30.7	72.53	14	21 12 49.60	16 22 13.9
15	19 37 27.49	23 55 15.5	73.65	15	21 14 46.94	16 10 30.3
16	19 39 33.68	23 47 53.6	74.75	16	21 16 44.13	15 58 42.3
17	19 41 39.68	23 40 25.1	75.83	17	21 18 41.15	15 46 49.9
18	19 43 45.50	23 32 50.1	76.92	18	21 20 38.01	15 34 53.1
19	19 45 51.12	23 25 8.6	77.98	19	21 22 34.72	15 22 52.1
20	19 47 56.54	23 17 20.7	79.07	20	21 24 31.28	15 10 46.8
21	19 50 1.77	23 9 26.3	80.12	21	21 26 27.69	14 58 37.3
22	19 52 6.81	23 1 25.6	81.18	22	21 28 23.94	14 46 23.7
23	19 54 11.65	S. 22 53 18.5	82.22	23	21 30 20.06	S. 14 34 6.0
<i>THURSDAY 18.</i>				<i>SATURDAY 20.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	19 56 16.29	S. 22 45 5.2	83.27	0	21 32 16.02	S. 14 21 44.3
1	19 58 20.74	22 36 45.6	84.30	1	21 34 11.85	14 9 18.6
2	20 0 24.99	22 28 19.8	85.32	2	21 36 7.54	13 56 49.0
3	20 2 29.05	22 19 47.9	86.35	3	21 38 3.09	13 44 15.5
4	20 4 32.90	22 11 9.8	87.35	4	21 39 58.52	13 31 38.1
5	20 6 36.56	22 2 25.7	88.37	5	21 41 53.80	13 18 57.0
6	20 8 40.03	21 53 35.5	89.37	6	21 43 48.97	13 6 12.2
7	20 10 43.29	21 44 39.3	90.35	7	21 45 44.00	12 53 23.6
8	20 12 46.36	21 35 37.2	91.33	8	21 47 38.92	12 40 31.5
9	20 14 49.23	21 26 29.2	92.32	9	21 49 33.71	12 27 35.8
10	20 16 51.90	21 17 15.3	93.28	10	21 51 28.39	12 14 36.5
11	20 18 54.37	21 7 55.6	94.25	11	21 53 22.95	12 1 33.8
12	20 20 56.65	20 58 30.1	95.20	12	21 55 17.40	11 48 27.7
13	20 22 58.73	20 48 58.9	96.15	13	21 57 11.74	11 35 18.2
14	20 25 0.61	20 39 22.0	97.10	14	21 59 5.98	11 22 5.4
15	20 27 2.30	20 29 39.4	98.02	15	22 1 0.11	11 8 49.3
16	20 29 3.80	20 19 51.3	98.95	16	22 2 54.14	10 55 30.1
17	20 31 5.10	20 9 57.6	99.87	17	22 4 48.08	10 42 7.6
18	20 33 6.21	19 59 58.4	100.77	18	22 6 41.92	10 28 42.1
19	20 35 7.12	19 49 53.8	101.67	19	22 8 35.68	10 15 13.5
20	20 37 7.85	19 39 43.8	102.57	20	22 10 29.34	10 1 42.0
21	20 39 8.38	19 29 28.4	103.45	21	22 12 22.93	9 48 7.4
22	20 41 8.73	19 19 7.7	104.33	22	22 14 16.43	9 34 30.0
23	20 43 8.88	19 8 41.7	105.18	23	22 16 9.86	9 20 49.8
24	20 45 8.86	S. 18 58 10.6		24	22 18 3.21	S. 9 7 6.8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SUNDAY 21.				TUESDAY 23.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	22 18 3.21	S. 9 7 6.8	137.62	0	23 48 28.52	N. 2 27 44.9	148.45
1	22 19 56.49	8 53 21.1	138.07	1	23 50 22.82	2 42 35.6	148.42
2	22 21 49.71	8 39 32.7	138.52	2	23 52 17.24	2 57 26.1	148.40
3	22 23 42.87	8 25 41.6	138.93	3	23 54 11.79	3 12 16.5	148.37
4	22 25 35.96	8 11 48.0	139.35	4	23 56 6.47	3 27 6.7	148.30
5	22 27 29.00	7 57 51.9	139.77	5	23 58 1.28	3 41 56.5	148.25
6	22 29 21.98	7 43 53.3	140.15	6	23 59 56.23	3 56 46.0	148.18
7	22 31 14.91	7 29 52.4	140.55	7	0 1 51.32	4 11 35.1	148.10
8	22 33 7.80	7 15 49.1	140.95	8	0 3 46.56	4 26 23.7	148.02
9	22 35 0.64	7 1 43.4	141.30	9	0 5 41.96	4 41 11.8	147.90
0	22 36 53.45	6 47 35.6	141.67	10	0 7 37.51	4 55 59.2	147.80
1	22 38 46.22	6 33 25.6	142.03	11	0 9 33.22	5 10 46.0	147.67
2	22 40 38.95	6 19 13.4	142.37	12	0 11 29.09	5 25 32.0	147.53
3	22 42 31.66	6 4 59.2	142.72	13	0 13 25.14	5 40 17.2	147.40
4	22 44 24.34	5 50 42.9	143.03	14	0 15 21.36	5 55 1.6	147.22
5	22 46 17.00	5 36 24.7	143.37	15	0 17 17.74	6 9 44.9	147.07
6	22 48 9.64	5 22 4.5	143.67	16	0 19 14.32	6 24 27.3	146.88
7	22 50 2.27	5 7 42.5	143.95	17	0 21 11.09	6 39 8.6	146.68
8	22 51 54.89	4 53 18.8	144.27	18	0 23 8.06	6 53 48.7	146.50
9	22 53 47.50	4 38 53.2	144.53	19	0 25 5.21	7 8 27.7	146.27
0	22 55 40.11	4 24 26.0	144.80	20	0 27 2.57	7 23 5.3	146.05
1	22 57 32.72	4 9 57.2	145.07	21	0 29 0.14	7 37 41.6	145.80
2	22 59 25.34	3 55 26.8	145.32	22	0 30 57.91	7 52 16.4	145.55
3	23 1 17.97	S. 3 40 54.9	145.57	23	0 32 55.90	N. 8 6 49.7	145.30
MONDAY 22.				WEDNESDAY 24.			
0	23 3 10.61	S. 3 26 21.5	145.80	0	0 34 54.12	N. 8 21 21.5	145.02
1	23 5 3.27	3 11 46.7	146.02	1	0 36 52.55	8 35 51.6	144.73
2	23 6 55.95	2 57 10.6	146.22	2	0 38 51.20	8 50 20.0	144.43
3	23 8 48.65	2 42 33.3	146.45	3	0 40 50.09	9 4 46.6	144.13
4	23 10 41.39	2 27 54.6	146.62	4	0 42 49.21	9 19 11.4	143.80
5	23 12 34.16	2 13 14.9	146.82	5	0 44 48.57	9 33 34.2	143.47
6	23 14 26.96	1 58 34.0	147.00	6	0 46 48.18	9 47 55.0	143.12
7	23 16 19.81	1 43 52.0	147.15	7	0 48 48.04	10 2 13.7	142.77
8	23 18 12.70	1 29 9.1	147.32	8	0 50 48.15	10 16 30.3	142.40
9	23 20 5.64	1 14 25.2	147.47	9	0 52 48.53	10 30 44.7	142.02
0	23 21 58.64	0 59 40.4	147.60	10	0 54 49.16	10 44 56.8	141.62
1	23 23 51.69	0 44 54.8	147.72	11	0 56 50.06	10 59 6.5	141.20
2	23 25 44.81	0 30 8.5	147.85	12	0 58 51.23	11 13 13.7	140.78
3	23 27 37.99	0 15 21.4	147.93	13	1 0 52.68	11 27 18.4	140.35
4	23 29 31.24	S. 0 0 33.8	148.05	14	1 2 54.41	11 41 20.5	139.92
5	23 31 24.56	N. 0 14 14.5	148.13	15	1 4 56.42	11 55 20.0	139.43
6	23 33 17.97	0 29 3.3	148.22	16	1 6 58.72	12 9 16.6	138.99
7	23 35 11.45	0 43 52.6	148.27	17	1 9 1.31	12 23 10.5	138.51
8	23 37 5.02	0 58 42.2	148.33	18	1 11 4.21	12 37 1.4	138.00
9	23 38 58.69	1 13 32.2	148.37	19	1 13 7.40	12 50 49.4	137.44
0	23 40 52.44	1 28 22.4	148.42	20	1 15 10.90	13 4 34.2	136.82
1	23 42 46.30	1 43 12.9	148.43	21	1 17 14.70	13 18 15.9	136.14
2	23 44 40.27	1 58 3.5	148.45	22	1 19 18.82	13 31 54.4	135.41
3	23 46 34.34	2 12 54.2	148.45	23	1 21 23.26	13 45 29.7	134.64
4	23 48 28.52	N. 2 27 44.9		24	1 23 28.02	N. 13 59 1	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
THURSDAY 25.				SATURDAY 27.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	1 23 28.02	N. 13 59 1.4	134.72	0	3 10 36.93	N. 23 13 41.0
1	1 25 33.10	14 12 29.7	134.12	1	3 13 0.90	23 22 38.8
2	1 27 38.51	14 25 54.4	133.52	2	3 15 25.28	23 31 28.7
3	1 29 44.26	14 39 15.5	132.90	3	3 17 50.08	23 40 10.6
4	1 31 50.34	14 52 32.9	132.27	4	3 20 15.29	23 48 44.4
5	1 33 56.77	15 5 46.5	131.62	5	3 22 40.92	23 57 10.0
6	1 36 3.53	15 18 56.2	130.95	6	3 25 6.97	24 5 27.3
7	1 38 10.64	15 32 1.9	130.27	7	3 27 33.42	24 13 36.3
8	1 40 18.11	15 45 3.5	129.58	8	3 30 0.28	24 21 36.8
9	1 42 25.93	15 58 1.0	128.88	9	3 32 27.54	24 29 28.7
10	1 44 34.10	16 10 54.3	128.17	10	3 34 55.21	24 37 12.0
11	1 46 42.64	16 23 43.3	127.42	11	3 37 23.28	24 44 46.6
12	1 48 51.55	16 36 27.8	126.68	12	3 39 51.74	24 52 12.4
13	1 51 0.82	16 49 7.9	125.92	13	3 42 20.61	24 59 29.3
14	1 53 10.47	17 1 43.4	125.13	14	3 44 49.87	25 6 37.1
15	1 55 20.49	17 14 14.2	124.35	15	3 47 19.51	25 13 35.9
16	1 57 30.89	17 26 40.3	123.55	16	3 49 49.54	25 20 25.5
17	1 59 41.67	17 39 1.6	122.72	17	3 52 19.95	25 27 5.9
18	2 1 52.83	17 51 17.9	121.88	18	3 54 50.73	25 33 36.9
19	2 4 4.38	18 3 29.2	121.03	19	3 57 21.89	25 39 58.5
20	2 6 16.32	18 15 35.4	120.17	20	3 59 53.41	25 46 10.6
21	2 8 28.66	18 27 36.4	119.28	21	4 2 25.29	25 52 13.1
22	2 10 41.39	18 39 32.1	118.38	22	4 4 57.53	25 58 5.9
23	2 12 54.51	N. 18 51 22.4	117.48	23	4 7 30.12	N. 26 3 49.0
FRIDAY 26.				SUNDAY 28.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	2 15 8.03	N. 19 3 7.3	116.55	0	4 10 3.06	N. 26 9 22.3
1	2 17 21.96	19 14 46.6	115.60	1	4 12 36.34	26 14 45.7
2	2 19 36.29	19 26 20.2	114.65	2	4 15 9.95	26 19 59.1
3	2 21 51.02	19 37 48.1	113.67	3	4 17 43.89	26 25 2.5
4	2 24 6.17	19 49 10.1	112.70	4	4 20 18.15	26 29 55.7
5	2 26 21.73	20 0 26.3	111.67	5	4 22 52.73	26 34 38.8
6	2 28 37.70	20 11 36.3	110.67	6	4 25 27.62	26 39 11.5
7	2 30 54.08	20 22 40.3	109.63	7	4 28 2.81	26 43 34.0
8	2 33 10.88	20 33 38.1	108.57	8	4 30 38.30	26 47 46.0
9	2 35 28.10	20 44 29.5	107.52	9	4 33 14.07	26 51 47.5
10	2 37 45.73	20 55 14.6	106.42	10	4 35 50.13	26 55 38.5
11	2 40 3.78	21 5 53.1	105.33	11	4 38 26.47	26 59 19.0
12	2 42 22.26	21 16 25.1	104.22	12	4 41 3.08	27 2 48.7
13	2 44 41.16	21 26 50.4	103.10	13	4 43 39.95	27 6 7.7
14	2 47 0.48	21 37 9.0	101.93	14	4 46 17.08	27 9 15.9
15	2 49 20.22	21 47 20.6	100.78	15	4 48 54.44	27 12 13.3
16	2 51 40.38	21 57 25.3	99.62	16	4 51 32.05	27 14 59.8
17	2 54 0.97	22 7 23.0	98.42	17	4 54 9.88	27 17 35.4
18	2 56 21.99	22 17 13.5	97.20	18	4 56 47.93	27 19 59.9
19	2 58 43.42	22 26 56.7	95.98	19	4 59 26.19	27 22 13.4
20	3 1 5.28	22 36 32.6	94.75	20	5 2 4.65	27 24 15.9
21	3 3 27.56	22 46 1.1	93.50	21	5 4 43.30	27 26 7.2
22	3 5 50.26	22 55 22.1	92.22	22	5 7 22.14	27 27 47.3
23	3 8 13.39	23 4 35.4	90.93	23	5 10 1.15	27 29 16.2
24	3 10 36.93	N. 23 13 41.0		24	5 12 40.33	N. 27 30 33.9

MEAN TIME.

PHASES OF THE MOON.

	d	h	m
○ Full Moon - - - - -	5	14	5·8
☾ Last Quarter - - - - -	12	18	38·5
● New Moon - - - - -	20	23	20·8
☽ First Quarter - - - - -	28	8	3·0

	d	h
☾ Perigee - - - - -	4	2
☾ Apogee - - - - -	16	3

MEAN TIME.									
LUNAR DISTANCES.									
Day of the Month.	Star's Name and Position.		Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
			[°] ['] ["]		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]
1	SUN	W.	116 31 20	2540	118 11 37	2527	119 52 13	2513	121 33 1
	α Pegasi	W.	76 57 45	2415	78 40 59	2399	80 24 35	2385	82 8 8
	Venus	W.	72 44 40	2595	74 23 42	2581	76 3 3	2567	77 42 2
	α Arietis	W.	33 47 56	2271	35 34 38	2255	37 21 44	2239	39 9 9
	Pollux	E.	41 40 14	2252	39 53 4	2242	38 5 39	2231	36 17 7
	Regulus	E.	78 27 45	2223	76 39 55	2213	74 51 47	2200	73 3 3
2	SUN	W.	130 2 9	2440	131 44 47	2429	133 27 40	2419	135 10 1
	α Pegasi	W.	90 52 51	2313	92 38 32	2303	94 24 27	2295	96 10 1
	Venus	W.	86 5 32	2492	87 46 56	2481	89 28 36	2471	91 10 1
	α Arietis	W.	48 12 2	2157	50 1 34	2146	51 51 23	2136	53 41 1
	Aldebaran	W.	18 52 5	2882	20 24 47	2753	22 0 17	2649	23 38 8
	Pollux	E.	27 16 38	2192	25 27 58	2191	23 39 17	2192	21 50 1
	Regulus	E.	63 56 37	2132	62 6 27	2122	60 16 2	2113	58 25 5
3	Venus	W.	99 43 18	2419	101 26 26	2413	103 9 42	2407	104 53 1
	α Arietis	W.	62 55 33	2083	64 46 58	2076	66 38 34	2071	68 30 1
	Aldebaran	W.	32 10 2	2319	33 55 33	2290	35 41 47	2264	37 28 3
	Regulus	E.	49 8 50	2066	47 16 59	2060	45 24 58	2055	43 32 5
	Spica η	E.	103 11 14	2069	101 19 27	2063	99 27 31	2057	97 35 2
	Mars	E.	110 39 48	2201	108 51 22	2194	107 2 45	2188	105 13 5
4	Venus	W.	113 31 39	2387	115 15 32	2387	116 59 26	2387	118 43 2
	α Arietis	W.	77 50 41	2050	79 42 58	2049	81 35 16	2048	83 27 3
	Aldebaran	W.	46 29 50	2170	48 19 2	2162	50 8 27	2155	51 58 8
	Regulus	E.	34 10 41	2038	32 18 6	2037	30 25 30	2039	28 32 5
	Spica η	E.	88 13 32	2039	86 20 59	2038	84 28 24	2038	82 35 4
	Mars	E.	96 8 21	2165	94 19 0	2164	92 29 38	2163	90 40 1
5	α Arietis	W.	92 48 33	2063	94 40 29	2068	96 32 18	2074	98 23 5
	Aldebaran	W.	61 7 25	2141	62 57 21	2143	64 47 14	2146	66 37 7
	Pollux	W.	18 18 43	2161	20 8 9	2147	21 57 57	2138	23 47 5
	Spica η	E.	73 13 32	2053	71 21 20	2058	69 29 16	2064	67 37 2
	Mars	E.	81 33 53	2177	79 44 51	2183	77 55 58	2189	76 7 1
6	Aldebaran	W.	75 44 13	2183	77 33 6	2192	79 21 46	2202	81 10 1
	Pollux	W.	32 58 32	2145	34 48 23	2151	36 38 4	2160	38 27 3
	Spica η	E.	58 20 35	2113	56 29 55	2124	54 39 32	2134	52 49 2
	Mars	E.	67 6 30	2241	65 19 4	2253	63 31 56	2266	61 45 1
	Antares	E.	104 10 9	2106	102 19 19	2117	100 28 45	2127	98 38 2
	Jupiter	E.	111 40 20	2174	109 51 13	2184	108 2 21	2194	106 13 4
7	Aldebaran	W.	90 7 53	2277	91 54 26	2291	93 40 38	2307	95 26 2
	Pollux	W.	47 31 9	2225	49 18 59	2239	51 6 29	2253	52 53 3
	Regulus	W.	10 29 32	2235	12 17 8	2242	14 4 33	2251	15 51 4
	Spica η	E.	43 43 39	2215	41 55 33	2230	40 7 50	2245	38 20 3
	Mars	E.	52 56 4	2355	51 11 25	2373	49 27 12	2391	47 43 2
	Antares	E.	89 31 36	2204	87 43 14	2219	85 55 15	2233	84 7 3
	Jupiter	E.	97 15 9	2270	95 28 25	2285	93 42 3	2299	91 56 3
	Saturn	E.	112 7 11	2251	110 19 59	2264	108 33 7	2279	106 46 3
8	Pollux	W.	61 43 47	2347	63 28 38	2364	65 13 4	2381	66 57 6
	Regulus	W.	24 42 42	2338	26 27 46	2355	28 12 25	2372	29 56 40

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
1	SUN W.	123 14 21	2487	124 55 52	2474	126 37 41	2462	128 19 47	2451
	α Pegasi W.	83 52 47	2358	85 37 22	2346	87 22 15	2334	89 7 25	2323
	Venus W.	79 22 41	2540	81 2 58	2528	82 43 32	2515	84 24 24	2504
	α Arietis W.	40 57 6	2209	42 45 20	2196	44 33 54	2182	46 22 49	2170
	Pollux E.	34 30 4	2214	32 41 57	2207	30 53 40	2200	29 5 12	2196
	Regulus E.	71 14 33	2177	69 25 30	2165	67 36 9	2153	65 46 31	2143
2	SUN W.	136 54 10	2399	138 37 46	2391	140 21 34	2382	142 5 34	2375
	α Pegasi W.	97 56 53	2279	99 43 23	2273	101 30 2	2268	103 16 48	2264
	Venus W.	92 52 38	2451	94 35 0	2442	96 17 35	2434	98 0 21	2427
	α Arietis W.	55 31 49	2115	57 22 26	2106	59 13 16	2098	61 4 18	2090
	Aldebaran W.	25 17 46	2498	26 59 2	2442	28 41 37	2394	30 25 20	2353
	Pollux E.	20 2 6	2208	18 13 50	2224	16 25 58	2251	14 38 46	2293
	Regulus E.	56 34 29	2095	54 43 22	2087	52 52 3	2079	51 0 32	2072
3	Venus W.	106 36 38	2397	108 20 17	2394	110 4 0	2391	111 47 48	2389
	α Arietis W.	70 22 11	2060	72 14 11	2057	74 6 17	2054	75 58 27	2052
	Aldebaran W.	39 16 4	2223	41 3 57	2207	42 52 14	2192	44 40 53	2180
	Regulus E.	41 40 34	2046	39 48 12	2044	37 55 46	2041	36 3 15	2039
	Spica η E.	95 43 15	2048	93 50 56	2045	91 58 32	2042	90 6 4	2040
	Mars E.	103 25 4	2177	101 36 2	2172	99 46 53	2169	97 57 39	2167
4	Venus W.	120 27 12	2389	122 11 2	2392	123 54 48	2396	125 38 29	2400
	α Arietis W.	85 19 52	2050	87 12 8	2052	89 4 21	2055	90 56 29	2058
	Aldebaran W.	53 47 47	2145	55 37 37	2143	57 27 31	2141	59 17 28	2141
	Regulus E.	26 40 23	2041	24 47 53	2044	22 55 28	2048	21 3 9	2054
	Spica η E.	80 43 15	2040	78 50 43	2042	76 58 15	2045	75 5 51	2048
	Mars E.	88 50 52	2165	87 1 32	2167	85 12 14	2170	83 23 1	2173
5	α Arietis W.	100 15 28	2087	102 6 47	2095	103 57 54	2103	105 48 48	2113
	Aldebaran W.	68 26 47	2154	70 16 23	2161	72 5 50	2167	73 55 7	2174
	Pollux W.	25 38 5	2132	27 28 16	2132	29 18 26	2135	31 8 32	2139
	Spica η E.	65 45 36	2077	63 54 2	2085	62 2 39	2094	60 11 30	2103
	Mars E.	71 18 40	2203	72 30 17	2212	70 42 7	2221	68 54 11	2231
6	Aldebaran W.	82 58 19	2225	84 46 10	2236	86 33 44	2249	88 20 58	2262
	Pollux W.	40 16 48	2178	42 5 48	2188	43 54 33	2200	45 43 0	2213
	Spica η E.	50 59 37	2159	49 10 7	2172	47 20 57	2185	45 32 7	2200
	Mars E.	59 58 35	2292	58 12 24	2307	56 26 35	2322	54 41 8	2338
	Antares E.	96 48 27	2151	94 58 45	2163	93 9 22	2176	91 20 18	2190
	Jupiter E.	104 25 25	2217	102 37 23	2229	100 49 39	2242	99 2 14	2256
7	Aldebaran W.	97 11 54	2339	98 56 56	2357	100 41 33	2373	102 25 46	2391
	Pollux W.	54 40 25	2283	56 26 50	2298	58 12 52	2314	59 58 31	2330
	Regulus W.	17 38 38	2277	19 25 11	2291	21 11 24	2306	22 57 14	2322
	Spica η E.	36 33 35	2279	34 47 5	2297	33 1 1	2315	31 15 23	2333
	Mars E.	46 0 5	2431	44 17 14	2452	42 34 53	2474	40 53 3	2497
	Antares E.	82 20 23	2266	80 33 33	2281	78 47 6	2298	77 1 3	2315
	Jupiter E.	90 10 25	2331	88 25 10	2347	86 40 19	2364	84 55	
	Saturn E.	105 0 29	2311	103 14 45	2326	101 29 23	2343	99 4	
8	Pollux W.	68 40 42	2416	70 23 54	2435	72 6 39	2452	73	
	Regulus W.	31 40 30	2407	33 23 55	2425	35 6 54	2443	36	

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
8	Spica π E.	29 30 12 2353	27 45 30 2373	26 1 16 2394	24 17 33			
	Mars E.	39 11 46 2521	37 31 2 2546	35 50 53 2572	34 11 24			
	Antares E.	75 15 25 2333	73 30 13 2349	71 45 25 2367	70 1 1			
	Jupiter E.	83 11 51 2398	81 28 14 2416	79 45 2 2434	78 2 14			
	Saturn E.	97 59 52 2377	96 15 44 2394	94 32 0 2412	92 48 41			
9	Pollux W.	75 30 54 2489	77 12 23 2508	78 53 25 2525	80 34 3			
	Regulus W.	38 31 36 2479	40 13 19 2498	41 54 35 2516	43 35 26			
	Mars W.	26 4 11 2779	24 29 15 2825	22 55 19 2878	21 22 33			
	Antares E.	61 25 42 2477	59 43 56 2495	58 2 35 2514	56 21 41			
	Jupiter E.	69 34 57 2546	67 54 48 2566	66 15 6 2585	64 35 50			
	Saturn E.	84 18 35 2522	82 37 52 2540	80 57 34 2559	79 17 43			
	SUN E.	134 34 31 2811	133 0 18 2831	131 26 30 2851	129 53 9			
10	Pollux W.	88 50 48 2636	90 28 54 2654	92 6 36 2672	93 43 53			
	Regulus W.	51 53 19 2626	53 31 39 2644	55 9 34 2661	56 47 6			
	Antares E.	48 3 35 2624	46 25 13 2643	44 47 15 2661	43 9 42			
	Jupiter E.	56 26 6 2701	54 49 27 2721	53 13 15 2739	51 37 27			
	Saturn E.	71 4 52 2672	69 27 34 2690	67 50 41 2708	66 14 12			
	SUN E.	122 12 45 2971	120 41 56 2990	119 11 31 3010	117 41 30			
11	Pollux W.	101 44 33 2775	103 19 34 2791	104 54 14 2808	106 28 32			
	Regulus W.	64 48 56 2763	66 24 12 2780	67 59 6 2795	69 33 40			
	Spica π W.	11 4 7 2880	12 36 52 2870	14 9 49 2869	15 42 48			
	Antares E.	35 7 43 2763	33 32 27 2779	31 57 31 2795	30 22 57			
	Jupiter E.	43 44 44 2853	42 11 25 2872	40 38 30 2891	39 6 0			
	Saturn E.	58 17 44 2815	56 43 35 2832	55 9 48 2849	53 36 24			
	α Aquilæ E.	90 5 31 3425	88 43 43 3443	87 22 15 3460	86 1 6			
	SUN E.	110 17 13 3121	108 49 29 3138	107 22 6 3155	105 55 3			
12	Regulus W.	77 21 36 2883	78 54 16 2896	80 26 40 2909	81 58 47			
	Spica π W.	23 26 3 2911	24 58 8 2920	26 30 1 2931	28 1 41			
	Mars W.	14 52 4 3551	16 11 32 3468	17 32 32 3408	18 54 39			
	Antares E.	22 34 57 2883	21 2 16 2896	19 29 52 2909	17 57 45			
	Jupiter E.	31 29 26 3005	29 59 20 3026	28 29 40 3048	27 0 26			
	Saturn E.	45 54 32 2944	44 23 9 2959	42 52 5 2974	41 21 20			
	α Aquilæ E.	79 20 34 3576	78 1 33 3598	76 42 56 3620	75 24 43			
	SUN E.	98 44 43 3250	97 19 33 3265	95 54 41 3279	94 30 5			
13	Regulus W.	89 35 40 2977	91 6 22 2987	92 36 51 2995	94 7 10			
	Spica π W.	35 36 50 2989	37 7 16 2998	38 37 31 3006	40 7 36			
	Mars W.	25 54 41 3259	27 19 41 3251	28 44 50 3244	30 10 7			
	Saturn E.	33 52 5 3061	32 23 7 3075	30 54 27 3089	29 26 4			
	α Aquilæ E.	68 59 48 3765	67 44 9 3791	66 28 57 3819	65 14 15			
	SUN E.	87 30 49 3352	86 7 38 3363	84 44 40 3373	83 21 53			
14	Spica π W.	47 35 39 3049	49 4 51 3054	50 33 57 3060	52 2 56			
	Mars W.	37 17 24 3232	38 42 55 3231	40 8 27 3231	41 33 59			
	Saturn E.	22 9 5 3194	20 42 49 3219	19 17 2 3248	17 51 49			
	α Aquilæ E.	59 8 35 4014	57 57 9 4053	56 46 22 4095	55 36 15			
	SUN E.	76 30 31 3423	75 8 41 3430	73 46 59 3436	72 25 23			
15	Spica π W.	59 26 34 3082	60 55 6 3083	62 23 36 3085	63 52 4			

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
		° ' "		° ' "		° ' "		° ' "	
8	Spica η E.	22 34 20	2438	20 51 40	2463	19 9 34	2489	17 28 5	2518
	Mars E.	32 32 27	2631	30 54 14	2663	29 16 45	2698	27 40 3	2736
	Antares E.	68 17 7	2403	66 33 37	2421	64 50 32	2440	63 7 54	2458
	Jupiter E.	76 19 56	2471	74 38 2	2489	72 56 34	2508	71 15 32	2528
	Saturn E.	91 5 49	2447	89 23 21	2466	87 41 20	2484	85 59 44	2503
9	Pollux W.	82 14 14	2562	83 54 1	2582	85 33 21	2599	87 12 17	2618
	Regulus W.	45 15 51	2553	46 55 51	2572	48 35 25	2589	50 14 35	2608
	Mars E.	19 51 3	3011	18 21 4	3099	16 52 53	3207	15 26 52	3344
	Antares E.	54 41 13	2551	53 1 10	2569	51 21 33	2588	49 42 21	2607
	Jupiter E.	62 57 1	2624	61 18 38	2643	59 40 41	2662	58 3 10	2682
	Saturn E.	77 38 17	2597	75 59 18	2615	74 20 44	2634	72 42 35	2653
	SUN E.	128 20 13	2891	126 47 43	2911	125 15 38	2931	123 43 59	2951
10	Pollux W.	95 20 48	2707	96 57 18	2724	98 33 26	2741	100 9 11	2759
	Regulus W.	58 24 14	2697	60 0 58	2714	61 37 20	2731	63 13 19	2747
	Antares E.	41 32 32	2696	39 55 46	2713	38 19 23	2729	36 43 22	2746
	Jupiter E.	50 2 5	2777	48 27 7	2797	46 52 35	2815	45 18 27	2835
	Saturn E.	64 38 7	2744	63 2 26	2763	61 27 9	2780	59 52 15	2798
	SUN E.	116 11 53	3048	114 42 39	3066	113 13 48	3084	111 45 19	3103
11	Pollux W.	108 2 30	2838	109 36 8	2853	111 9 27	2868	112 42 27	2883
	Regulus W.	71 7 53	2826	72 41 47	2842	74 15 21	2856	75 48 37	2869
	Spica η W.	17 15 45	2876	18 48 35	2883	20 21 16	2892	21 53 45	2901
	Antares E.	28 48 42	2826	27 14 48	2840	25 41 12	2855	24 7 55	2870
	Jupiter E.	37 33 53	2928	36 2 10	2947	34 30 51	2967	32 59 57	2985
	Saturn E.	52 3 21	2881	50 30 38	2898	48 58 16	2913	47 26 14	2929
	α Aquilæ E.	84 40 17	3497	83 19 49	3516	81 59 42	3535	80 39 57	3555
	SUN E.	104 28 21	3188	103 1 58	3204	101 35 54	3221	100 10 10	3236
12	Regulus W.	83 30 39	2934	85 2 15	2945	86 33 37	2956	88 4 45	2966
	Spica η W.	29 33 7	2951	31 4 21	2961	32 35 23	2971	34 6 12	2980
	Mars W.	20 17 38	3329	21 41 16	3304	23 5 23	3283	24 29 54	3269
	Antares E.	16 25 54	2934	14 54 18	2946	13 22 58	2957	11 51 51	2969
	Jupiter E.	25 31 38	3093	24 3 20	3118	22 35 32	3146	21 8 18	3177
	Saturn E.	39 50 53	3004	38 20 45	3018	36 50 54	3032	35 21 21	3046
	α Aquilæ E.	74 6 53	3664	72 49 28	3689	71 32 29	3712	70 15 55	3738
	SUN E.	93 5 44	3306	91 41 39	3318	90 17 48	3331	88 54 12	3342
13	Regulus W.	95 37 17	3013	97 7 14	3021	98 37 1	3029	100 6 38	3035
	Spica η W.	41 37 30	3022	43 7 16	3030	44 36 52	3037	46 6 19	3043
	Mars W.	31 35 29	3236	33 0 55	3235	34 26 23	3233	35 51 53	3232
	Saturn E.	27 58 1	3120	26 30 15	3137	25 2 50	3154	23 35 46	3173
	α Aquilæ E.	64 0 2	3879	62 46 21	3911	61 33		20 36	3978
	SUN E.	81 59 17	3393	80 36 52	3401	79		2 29	3416
14	Spica η W.	53 31 49	3069	55 0 36	3072				
	Mars W.	42 59 31	3231	44 25 3	3231				
	Saturn E.	16 27 14	3322	15 3 28	337				
	α Aquilæ E.	54 26 49	4182	53 18 6	423				
	SUN E.	71 3 53	3447	69 42 29	34				
15	Spica η W.	65 20 30	3087	66 48 55	30				

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.		Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
			^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]
15	Mars	W.	48 41 40	3231	50 7 12	3230	51 32 46	3229	52 58
	Antares	W.	13 32 48	3077	15 1 26	3079	16 30 1	3081	17 58
	SUN	E.	65 38 46	3462	64 17 39	3464	62 56 35	3466	61 35
16	Spica π	W.	71 14 8	3087	72 42 34	3086	74 11 1	3084	75 39
	Mars	W.	60 6 40	3219	61 32 27	3216	62 58 17	3213	64 24
	Antares	W.	25 21 7	3082	26 49 39	3082	28 18 11	3079	29 46
	Jupiter	W.	17 7 7	3341	18 30 31	3312	19 54 29	3286	21 18
	SUN	E.	54 50 40	3469	53 29 41	3468	52 8 41	3466	50 47
17	Spica π	W.	83 2 37	3068	84 31 26	3065	86 0 19	3060	87 29
	Mars	W.	71 34 46	3189	73 1 8	3184	74 27 36	3179	75 54
	Antares	W.	37 10 21	3064	38 39 15	3060	40 8 14	3056	41 37
	Jupiter	W.	28 26 30	3192	29 52 49	3182	31 19 20	3172	32 46
	Saturn	W.	14 28 55	3341	15 52 19	3295	17 16 36	3260	18 41
	SUN	E.	44 1 51	3450	42 40 31	3446	41 19 6	3441	39 57
18	Spica π	W.	94 55 40	3030	96 25 16	3023	97 55 0	3017	99 24
	Mars	W.	83 8 44	3143	84 36 1	3137	86 3 26	3129	87 31
	Antares	W.	49 4 8	3025	50 33 50	3018	52 3 40	3013	53 33
	Jupiter	W.	40 2 30	3116	41 30 20	3108	42 58 20	3099	44 26
	Saturn	W.	25 53 37	3134	27 21 5	3121	28 48 49	3108	30 16
	SUN	E.	33 8 39	3409	31 46 33	3402	30 24 19	3397	29 1
23	SUN	W.	23 48 20	3062	25 17 16	3052	26 46 24	3043	28 15
	α Arietis	E.	37 24 0	2747	35 48 23	2743	34 12 40	2738	32 36
	Aldebaran	E.	69 43 9	2786	68 8 23	2780	66 33 29	2773	64 58
	Pollux	E.	112 3 42	2717	110 27 25	2709	108 50 57	2700	107 14
24	SUN	W.	35 45 21	2986	37 15 51	2977	38 46 33	2967	40 17
	α Arietis	E.	24 36 55	2733	23 0 59	2738	21 25 10	2747	19 49
	Aldebaran	E.	57 1 23	2742	55 25 39	2738	53 49 49	2734	52 13
	Pollux	E.	99 8 3	2649	97 30 14	2640	95 52 13	2632	94 14
25	SUN	W.	47 54 50	2912	49 26 54	2903	50 59 9	2894	52 31
	Aldebaran	E.	44 13 33	2725	42 37 26	2727	41 1 22	2730	39 25
	Pollux	E.	86 0 10	2581	84 20 49	2573	82 41 17	2564	81 1
26	SUN	W.	60 16 49	2838	61 50 27	2829	63 24 17	2820	64 58
	Venus	W.	14 19 4	2946	15 50 25	2919	17 22 20	2897	18 54
	Aldebaran	E.	31 27 48	2794	29 53 12	2816	28 19 5	2845	26 45
	Pollux	E.	72 40 2	2515	70 59 10	2506	69 18 5	2498	67 36
	Regulus	E.	109 34 43	2502	107 53 33	2494	106 12 12	2485	104 30
27	SUN	W.	72 51 35	2764	74 26 50	2754	76 2 18	2744	77 37
	Venus	W.	26 42 6	2803	28 16 30	2791	29 51 10	2778	31 26
	α Arietis	W.	16 39 37	2611	18 18 17	2572	19 57 51	2540	21 38
	Pollux	E.	59 7 36	2449	57 25 11	2441	55 42 34	2433	53 59
	Regulus	E.	95 59 46	2434	94 16 59	2424	92 33 59	2416	90 50
28	SUN	W.	85 39 29	2689	87 16 24	2680	88 53 31	2670	90 30
	Venus	W.	39 24 36	2711	41 1 1	2700	42 37 41	2690	44 14
	α Arietis	W.	30 7 23	2422	31 50 27	2408	33 33 51	2394	35 17
	Pollux	E.	45 23 2	2387	43 39 9	2380	41 55 6	2373	40 10
	Regulus	E.	82 11 41	2364	80 27 14	2355	78 42 35	2347	76 57

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
ars	W.	54 23 57	3226	55 49 35	3225	57 15 14	3223	58 40 56	3221
tares	W.	19 27 6	3083	20 55 37	3083	22 24 7	3083	23 52 37	3083
n	E.	60 14 32	3470	58 53 34	3470	57 32 36	3470	56 11 38	3470
ica m	W.	77 8 1	3080	78 36 35	3078	80 5 12	3075	81 33 52	3071
ars	W.	65 50 9	3206	67 16 11	3202	68 42 18	3198	70 8 29	3194
tares	W.	31 15 22	3075	32 44 2	3073	34 12 45	3070	35 41 31	3067
piter	W.	22 43 50	3247	24 9 4	3231	25 34 37	3217	27 0 26	3204
n	E.	49 26 36	3462	48 5 29	3460	46 44 20	3457	45 23 8	3453
ica m	W.	88 58 22	3051	90 27 32	3046	91 56 48	3040	93 26 11	3035
ars	W.	77 20 51	3168	78 47 38	3162	80 14 33	3156	81 41 35	3150
tares	W.	43 6 28	3047	44 35 43	3041	46 5 5	3036	47 34 33	3031
piter	W.	34 12 58	3152	35 40 5	3143	37 7 23	3134	38 34 51	3125
urn	W.	20 7 7	3205	21 33 10	3185	22 59 37	3166	24 26 27	3149
n	E.	38 36 0	3431	37 14 19	3426	35 52 32	3421	34 30 39	3415
ica m	W.	100 54 51	3005	102 24 58	2998	103 55 14	2991	105 25 38	2984
ars	W.	88 58 41	3115	90 26 32	3109	91 54 31	3101	93 22 39	3093
tares	W.	55 3 42	2999	56 33 56	2993	58 4 18	2986	59 34 48	2978
piter	W.	45 54 52	3082	47 23 24	3074	48 52 6	3065	50 20 59	3056
urn	W.	31 45 4	3084	33 13 33	3072	34 42 17	3062	36 11 13	3051
n	E.	27 39 31	3383	26 16 55	3376	24 54 11	3369	23 31 19	3363
n	W.	29 45 15	3023	31 14 59	3014	32 44 55	3005	34 15 2	2995
arietis	E.	31 0 56	2731	29 24 57	2730	27 48 57	2729	26 12 55	2730
lebaran	E.	63 23 17	2761	61 47 59	2756	60 12 34	2751	58 37 2	2746
llux	E.	105 37 25	2683	104 0 22	2674	102 23 7	2666	100 45 41	2657
n	W.	41 48 32	2949	43 19 49	2939	44 51 18	2931	46 22 58	2921
arietis	E.	18 14 14	2782	16 39 22	2811	15 5 8	2855	13 31 51	2920
lebaran	E.	50 37 55	2728	49 1 52	2726	47 25 47	2725	45 49 40	2725
llux	E.	92 35 37	2615	90 57 3	2607	89 18 17	2598	87 39 19	2590
n	W.	54 4 15	2876	55 37 5	2866	57 10 8	2857	58 43 22	2847
lebaran	E.	37 49 28	2741	36 13 42	2750	34 38 8	2761	33 2 49	2775
llux	E.	79 21 38	2548	77 41 31	2540	76 1 13	2532	74 20 44	2523
n	W.	66 32 34	2801	68 7 1	2792	69 41 40	2782	71 16 31	2772
nus	W.	20 27 30	2860	22 0 40	2845	23 34 10	2830	25 7 59	2816
lebaran	E.	25 12 54	2928	23 41 10	2986	22 10 40	3061	20 41 43	3158
llux	E.	65 55 22	2482	64 13 43	2473	62 31 52	2465	60 49 50	2457
gulus	E.	102 48 52	2468	101 6 54	2459	99 24 43	2451	97 42 21	2442
n	W.	79 13 52	2726	80 49 58	2716	82 26 16	2707		
nus	W.	33 1 18	2754	34 36 46	2743	36 12 28			
arietis	W.	23 19 2	2492	25 0 27	2471	26 42			
llux	E.	52 16 47	2417	50 33 37	2410	48			
gulus	E.	89 7 23	2398	87 23 46	2390	85			
n	W.	92 8 23	2652	93 46 8	2643	95 24			
nus	W.	45 51 41	2670	47 29 1	2660	49 6			
arietis	W.	37 1 35	2370	38 45 53	2358	40 30			
llux	E.	38 26 32	2361	36 42 1	2356				
gulus	E.	75 12 40	2330	73 27 24	2321				

CONFIGURATIONS OF THE SATELLITES OF JUPITER

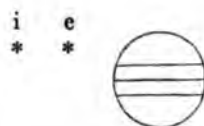
At 18^h, MEAN TIME.

Day of the Month.	West.				East.			
1	4.		2.	1.	○	3.		
2	.4			3.	○	1.		
3	.4	3.		.1	○	2.		
4		.4	.3		○	1.		
5			.4	.2	○			
6				.3	○			
7				.4	○	.2	.3	
8			2.	1.	○	3.	.4	
9			.2	3.	○	.1		.4
10		3.	.1		○	.2		.4
11		.3			○	2.	1.	.4
12			.2	.3	○			.4
13					○	1.	.2	.3
14	.1	●			○	4.	2.	.3
15				2.	○			.3
16			4.	.2	○	.1		
17		4.	3.	1.	○	.2		
18	.4		.3		○	2.	1.	
19	.4		.2	.3	○			
20		.4			○	1.	.3	
21	.1	●	.4		○	2.	.3	
22			.4	2.	○		.3	
23			.2		○	.4	.1	
24			3.	1.	○	.2	.4	
25		.3			○	2.	.1	.4
26			.3	.1	○			.4
27	.2	●			○	.3	1.	.4
28				.1	○	2.	.3	.4

This Table represents, at 18^h after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page, and the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a Satellite is at its greatest elongation, the point is placed above or below the centre of the numeral. A white circle (○) at the left or right hand of the page, denotes that the Satellite placed by the side of the numeral is on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the shadow of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

LLITE.	Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
I.	2	^h 5 ^m 47 ^s 26·7	^h 2 38 24·9	Im.
	4	0 15 46·8	21 13 43·6	Im.
	5	18 44 10·9	15 49 6·3	Im.
	7	13 12 29·4	10 24 23·4	Im.
	9	7 40 54·6	4 59 47·2	Im.
	11	2 9 14·3	23 35 5·5	Im.
	12	20 37 38·4	18 10 28·3	Im.
	14	15 5 56·4	12 45 45·0	Im.
	16	9 34 21·8	7 21 9·0	Im.
	18	4 2 41·2	1 56 27·0	Im.
	19	22 31 5·6	20 31 50·0	Im.
	21*	16 59 23·3	15 7 6·4	Im.
	23	11 27 48·8	9 42 30·5	Im.
	25	5 56 8·2	4 17 48·5	Im.
	27	0 24 32·8	22 53 11·8	Im.
	28	18 52 50·6	17 28 28·2	Im.
I.	2	19 56 30·2	16 49 47·8	Im.
	6	9 13 15·9	6 20 34·1	Im.
	9	22 30 3·8	19 51 22·5	Im.
	13	11 46 45·7	9 22 4·9	Im.
	17	1 3 27·9	22 52 47·7	Im.
	20	14 20 6·4	12 23 26·8	Im.
	24	3 36 44·2	1 54 5·1	Im.
	27*	16 53 19·8	15 24 41·2	Im.
II.	5	19 7 41·6	16 12 40·8	Im.
	5	21 24 59·6	18 30 21·4	Em.
	12	23 5 1·0	20 38 15·1	Im.
	13	1 22 58·7	22 56 35·5	Em.
	20	3 2 51·7	1 4 20·8	Im.
	20	5 21 29·3	3 23 21·2	Em.
	27	7 0 29·6	5 30 13·6	Im.
	27	9 19 48·2	7 49 55·1	Em.



APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS.	
	Inmersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
	d h m	d h m	d h m	d h m	d h m	d h m
I.		2 5 55	1 6 28	1 8 42	1 5 24	1 7 17
		4 0 31	3 1 5	3 3 19	3 0 0	3 2 2
		5 19 7	4 19 41	5 21 55	4 18 35	4 20 10
		7 13 44	6* 14 17	6 16 31	6 13 10	6* 15 15
		9 8 20	8 8 53	8 11 7	8 7 45	8 9 19
	In	11 2 56	10 3 30	10 5 43	10 2 21	10 4 4
		12 21 32	12 22 6	12 0 19	11 20 56	12 23 10
	the	14* 16 8	13 16 42	13 18 55	13* 15 31	13 17 17
		16 10 45	15 11 18	15 13 32	15 10 6	15 12 10
	Shadow.	18 5 20	17 5 54	17 8 7	17 4 42	17 6 16
		20 23 56	19 0 29	19 2 43	19 23 17	19 1 10
		21 18 32	20 19 5	20 21 19	20 17 52	20 20 10
		23 13 9	22 13 41	22* 15 55	22 12 27	22* 14 15
		25 7 44	24 8 17	24 10 31	24 7 2	24 9 10
		27 2 20	26 2 52	26 5 6	26 1 37	26 3 10
		28 20 55	27 21 28	28 23 42	27 20 13	27 22 10
II.		3 21 29	1 23 43	1 2 15	1 21 36	1 0 10
		6 11 4	4 13 18	4 15 51	4 11 7	4 13 10
	In	10 0 38	8 2 53	8 5 27	8 0 39	8 3 10
		13 14 12	11 16 28	11 19 1	11 14 10	11 16 10
	the	17 3 46	15 6 3	15 8 36	15 3 43	15 6 10
		20 17 19	18 19 37	19 22 10	18 17 14	18 19 10
	Shadow.	24 6 52	22 9 11	22 11 45	22 6 46	22 9 10
		27 20 24	26 22 44	26 1 18	25 20 17	26 22 10
III.	5 20 36	6 23 10	2 6 25	2 8 59	2 2 3	2 4 10
	13 1 16	13 3 50	9 11 7	9 13 41	9 6 30	9 9 10
	20 5 54	20 8 27	16* 15 46	16 18 19	16 10 55	16 13 10
	27 10 28	27 13 1	23 20 21	24 22 54	23* 15 21	23 17 10

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h 05 ^m 17 ^s 43. Days.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D				
1	-1.1055	+1.1726	+9.5243	-0.8380	^h 3 ^m 13 ^s 23.73	316	31	.085
2	1.1136	1.1653	9.5282	0.8388	3 9 27.83	317	32	.088
3	1.1214	1.1577	9.5321	0.8397	3 5 31.92	318	33	.090
4	-1.1289	+1.1499	+9.5358	-0.8406	3 1 36.01	319	34	.093
5	1.1361	1.1417	9.5395	0.8414	2 57 40.10	320	35	.096
6	1.1431	1.1333	9.5431	0.8423	2 53 44.18	321	36	.099
7	-1.1499	+1.1246	+9.5467	-0.8431	2 49 48.27	322	37	.101
8	1.1564	1.1156	9.5502	0.8440	2 45 52.36	323	38	.104
9	1.1627	1.1063	9.5536	0.8448	2 41 56.46	324	39	.107
0	-1.1688	+1.0966	+9.5569	-0.8456	2 38 0.55	325	40	.110
1	1.1746	1.0865	9.5602	0.8464	2 34 4.64	326	41	.112
2	1.1802	1.0761	9.5634	0.8472	2 30 8.73	327	42	.115
3	-1.1857	+1.0653	+9.5666	-0.8480	2 26 12.82	328	43	.118
4	1.1909	1.0541	9.5697	0.8487	2 22 16.91	329	44	.120
5	1.1959	1.0425	9.5728	0.8495	2 18 21.00	330	45	.123
6	-1.2007	+1.0304	+9.5758	-0.8502	2 14 25.09	331	46	.126
7	1.2054	1.0178	9.5787	0.8509	2 10 29.18	332	47	.129
8	1.2098	1.0047	9.5816	0.8516	2 6 33.27	333	48	.131
9	-1.2141	+0.9911	+9.5845	-0.8522	2 2 37.36	334	49	.134
0	1.2182	0.9769	9.5873	0.8528	1 58 41.45	335	50	.137
1	1.2222	0.9621	9.5901	0.8534	1 54 45.55	336	51	.140
2	-1.2259	+0.9466	+9.5928	-0.8540	1 50 49.64	337	52	.142
3	1.2295	0.9304	9.5954	0.8546	1 46 53.73	338	53	.145
4	1.2329	0.9134	9.5980	0.8551	1 42 57.82	339	54	.148
5	-1.2362	+0.8957	+9.6006	-0.8556	1 39 1.91	340		
6	1.2393	0.8771	9.6032	0.8561	1 35 6.00	341		
7	1.2423	0.8575	9.6057	0.8565	1 31 10.10	342		
8	1.2451	0.8368	9.6082	0.8569	1 27 14.19	343		
9	-1.2477	+0.8150	+9.6106	-0.8573	1 23 18.28	344		

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sideral Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to Apparent Time.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^m ^s
Mon.	1	22 49 7.19	9.342	S. 7 31 30.5	57.13	1 5.34	12 37.08
Tues.	2	22 52 51.40	9.321	7 8 39.3	57.38	1 5.27	12 24.77
Wed.	3	22 56 35.11	9.301	6 45 42.1	57.61	1 5.20	12 11.97
Thur.	4	23 0 18.34	9.282	6 22 39.4	57.82	1 5.13	11 58.68
Frid.	5	23 4 1.11	9.263	5 59 31.6	58.03	1 5.07	11 44.93
Sat.	6	23 7 43.42	9.246	5 36 18.9	58.21	1 5.01	11 30.73
Sun.	7	23 11 25.32	9.230	5 13 1.8	58.39	1 4.95	11 16.11
Mon.	8	23 15 6.83	9.214	4 49 40.5	58.54	1 4.89	11 1.11
Tues.	9	23 18 47.96	9.199	4 26 15.6	58.68	1 4.84	10 45.73
Wed.	10	23 22 28.74	9.186	4 2 47.2	58.81	1 4.79	10 30.00
Thur.	11	23 26 9.20	9.173	3 39 15.8	58.92	1 4.74	10 13.95
Frid.	12	23 29 49.36	9.162	3 15 41.6	59.02	1 4.70	9 57.60
Sat.	13	23 33 29.24	9.151	2 52 5.1	59.10	1 4.66	9 40.97
Sun.	14	23 37 8.86	9.141	2 28 26.7	59.17	1 4.62	9 24.08
Mon.	15	23 40 48.24	9.132	2 4 46.6	59.22	1 4.58	9 6.96
Tues.	16	23 44 27.41	9.124	1 41 5.3	59.25	1 4.55	8 49.62
Wed.	17	23 48 6.38	9.116	1 17 23.2	59.28	1 4.52	8 32.08
Thur.	18	23 51 45.17	9.110	0 53 40.5	59.28	1 4.49	8 14.37
Frid.	19	23 55 23.80	9.104	0 29 57.8	59.27	1 4.47	7 56.50
Sat.	20	23 59 2.30	9.099	S. 0 6 15.3	59.24	1 4.45	7 38.49
Sun.	21	0 2 40.68	9.094	N. 0 17 26.5	59.20	1 4.43	7 20.36
Mon.	22	0 6 18.94	9.090	0 41 7.2	59.13	1 4.41	7 2.12
Tues.	23	0 9 57.11	9.088	1 4 46.4	59.06	1 4.40	6 43.79
Wed.	24	0 13 35.22	9.085	1 28 23.9	58.97	1 4.39	6 25.40
Thur.	25	0 17 13.27	9.084	1 51 59.1	58.86	1 4.38	6 6.95
Frid.	26	0 20 51.29	9.083	2 15 31.7	58.73	1 4.38	5 48.46
Sat.	27	0 24 29.28	9.083	2 39 1.2	58.60	1 4.38	5 29.95
Sun.	28	0 28 7.27	9.084	3 2 27.5	58.45	1 4.39	5 11.43
Mon.	29	0 31 45.28	9.086	3 25 50.2	58.27	1 4.40	4 52.94
Tues.	30	0 35 23.32	9.087	3 49 8.7	58.09	1 4.41	4 34.48
Wed.	31	0 39 1.41	9.090	4 12 22.9	57.90	1 4.42	4 16.07
Thur.	32	0 42 39.58		N. 4 35 32.4		1 4.43	3 57.73

* Mean Time of the Semidiameter passing may be found by subtracting 0^m 18 from the Sideral

AT MEAN NOON.

	Day of the Month.	THE SUN'S			Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
on.	1	22 49 5.22	S. 7 31 42.5	16 9.1	12 37.18	22 36 28.04
es.	2	22 52 49.47	7 8 51.1	16 8.9	12 24.88	22 40 24.59
ed.	3	22 56 33.22	6 45 53.8	16 8.6	12 12.08	22 44 21.14
ur.	4	23 0 16.48	6 22 51.0	16 8.4	11 58.79	22 48 17.70
id.	5	23 3 59.29	5 59 42.9	16 8.1	11 45.04	22 52 14.25
t.	6	23 7 41.65	5 36 30.1	16 7.8	11 30.84	22 56 10.81
z.	7	23 11 23.59	5 13 12.8	16 7.6	11 16.23	23 0 7.36
on.	8	23 15 5.14	4 49 51.3	16 7.3	11 1.23	23 4 3.91
es.	9	23 18 46.31	4 26 26.1	16 7.1	10 45.84	23 8 0.47
ed.	10	23 22 27.14	4 2 57.5	16 6.8	10 30.12	23 11 57.02
ur.	11	23 26 7.64	3 39 25.8	16 6.6	10 14.07	23 15 53.57
id.	12	23 29 47.84	3 15 51.4	16 6.3	9 57.71	23 19 50.13
t.	13	23 33 27.76	2 52 14.7	16 6.0	9 41.08	23 23 46.68
z.	14	23 37 7.42	2 28 36.0	16 5.7	9 24.19	23 27 43.23
on.	15	23 40 46.85	2 4 55.6	16 5.4	9 7.07	23 31 39.79
es.	16	23 44 26.06	1 41 14.0	16 5.2	8 49.72	23 35 36.34
ed.	17	23 48 5.08	1 17 31.6	16 4.9	8 32.18	23 39 32.89
ur.	18	23 51 43.92	0 53 48.6	16 4.6	8 14.47	23 43 29.45
id.	19	23 55 22.60	0 30 5.6	16 4.3	7 56.60	23 47 26.00
t.	20	23 59 1.14	S. 0 6 22.9	16 4.1	7 38.58	23 51 22.55
z.	21	0 2 39.56	N. 0 17 19.2	16 3.8	7 20.46	23 55 19.11
on.	22	0 6 17.87	0 41 0.3	16 3.5	7 2.21	23 59 15.66
es.	23	0 9 56.09	1 4 39.8	16 3.2	6 43.88	0 3 12.21
ed.	24	0 13 34.25	1 28 17.5	16 3.0	6 25.48	0 7 8.77
ur.	25	0 17 12.35	1 51 53.1	16 2.7	6 7.03	0 11 5.32
id.	26	0 20 50.41	2 15 26.0	16 2.4	5 48.54	0 15 1.87
t.	27	0 24 28.44	2 38 55.9	16 2.1	5 30.02	0 18 58.43
z.	28	0 28 6.48	3 2 22.5	16 1.9	5 11.50	0 22 54.9
on.	29	0 31 44.54	3 25 45.4	16 1.6	4 53.00	0 26 51.4
es.	30	0 35 22.63	3 49 4.3	16 1.4	4 34.54	0 30 48
ed.	31	0 39 0.77	4 12 18.8	16 1.1	4 16.12	0 34 44
ur.	32	0 42 38.98	N. 4 35 28.6	16 0.8	3 57.78	0 38

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Para.	
	Noon.	Noon.	Noon.	Noon.	Midnight.	Noon.	Mid.
1	340 47 12.5	N.0° 69	9.9963158	16 8.3	16 11.8	59 13.3	59
2	341 47 19.6	0° 60	9.9964240	16 14.9	16 17.6	59 37.6	59
3	342 47 24.6	0° 49	9.9965335	16 19.7	16 21.2	59 55.3	60
4	343 47 27.5	0° 37	9.9966443	16 21.9	16 21.8	60 3.3	60
5	344 47 28.4	0° 23	9.9967566	16 20.8	16 19.0	59 59.1	59
6	345 47 27.1	N.0° 09	9.9968703	16 16.2	16 12.7	59 42.5	59
7	346 47 23.9	S.0° 04	9.9969855	16 8.4	16 3.4	59 13.6	58
8	347 47 18.8	0° 15	9.9971022	15 57.8	15 51.8	58 34.9	58
9	348 47 11.7	0° 25	9.9972203	15 45.4	15 38.9	57 49.2	57
10	349 47 2.8	0° 33	9.9973397	15 32.3	15 25.8	57 1.4	56
11	350 46 52.1	0° 38	9.9974603	15 19.5	15 13.5	56 14.3	55
12	351 46 39.7	0° 39	9.9975820	15 8.0	15 2.8	55 32.0	55
13	352 46 25.5	0° 38	9.9977046	14 58.3	14 54.5	54 56.7	54
14	353 46 9.6	0° 34	9.9978281	14 51.3	14 48.8	54 30.8	54
15	354 45 52.0	0° 27	9.9979523	14 47.0	14 45.9	54 15.0	54
16	355 45 32.7	0° 18	9.9980770	14 45.6	14 45.9	54 9.9	54
17	356 45 11.6	S.0° 06	9.9982020	14 46.9	14 48.6	54 14.7	54
18	357 44 48.8	N.0° 06	9.9983272	14 50.8	14 53.5	54 29.0	54
19	358 44 24.1	0° 18	9.9984525	14 56.8	15 0.4	54 50.9	55
20	359 43 57.6	0° 31	9.9985777	15 4.4	15 8.7	55 19.0	55
21	0 43 29.3	0° 43	9.9987027	15 13.1	15 17.8	55 51.0	56
22	1 42 58.9	0° 54	9.9988273	15 22.4	15 27.0	56 25.1	56
23	2 42 26.4	0° 63	9.9989516	15 31.6	15 36.0	56 58.8	57
24	3 41 51.9	0° 68	9.9990757	15 40.2	15 44.2	57 30.4	57
25	4 41 15.2	0° 71	9.9991994	15 47.9	15 51.3	57 58.7	58
26	5 40 36.3	0° 71	9.9993228	15 54.5	15 57.3	58 22.7	58
27	6 39 55.0	0° 68	9.9994459	15 59.8	16 2.0	58 42.3	58
28	7 39 11.5	0° 62	9.9995688	16 3.9	16 5.6	58 57.4	59
29	8 38 25.7	0° 53	9.9996916	16 7.0	16 8.1	59 8.6	59
30	9 37 37.6	0° 42	9.9998143	16 8.9	16 9.4	59 15.6	59
31	10 36 47.1	0° 29	9.9999370	16 9.5	16 9.3	59 17.8	59
32	11 35 54.2	N.0° 16	0.0000598	16 8.6	16 7.4	59 14.4	59

MEAN TIME.

THE MOON'S

Day of the Month.						
	Longitude.		Latitude.		Age.	Meridian
	Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.
1	79° 29' 22" 2	86° 35' 31" 5	N. 4° 28' 42" 6	N. 4° 6' 17" 7	8° 0'	6 53 4
2	93 44 14 1	100 55 10 7	3 39 55 5	3 9 57 9	9° 0'	7 56 2
3	108 8 1 4	115 22 19 7	2 36 51 4	2 1 8 1	10° 0'	8 57 4
4	122 37 35 6	129 53 15 2	1 23 23 3	N. 0° 44' 16 5	11° 0'	9 55 3
5	137 8 41 1	144 23 13 2	N. 0° 4 29 0	S. 0° 35' 16 0	12° 0'	10 49 3
6	151 36 9 4	158 46 47 2	S. 1° 14' 16 3	1 51 50 8	13° 0'	11 40 0
7	165 54 26 3	172 58 26 5	2 27 22 6	3 0 17 4	14° 0'	12 28 3
8	179 58 13 9	186 53 17 6	3 30 7 2	3 56 29 0	15° 0'	13 15 4
9	193 43 14 6	200 27 46 6	4 19 6 1	4 37 45 8	16° 0'	14 2 4
10	207 6 44 5	213 40 4 2	4 52 23 4	5 2 56 1	17° 0'	14 50 1
11	220 7 50 9	226 30 14 2	5 9 27 1	5 12 1 0	18° 0'	15 39 2
12	232 47 32 1	239 0 5 8	5 10 45 8	5 5 51 8	19° 0'	16 29 6
13	245 8 22 3	251 12 51 8	4 57 29 4	4 45 50 7	20° 0'	17 21 0
14	257 14 7 9	263 12 46 2	4 31 8 0	4 13 33 9	21° 0'	18 12 6
15	269 9 23 9	275 4 39 1	3 53 21 2	3 30 43 3	22° 0'	19 3 4
16	280 59 10 5	286 53 36 7	3 5 53 1	2 39 4 5	23° 0'	19 52 6
17	292 48 35 4	298 44 43 1	2 10 31 8	1 40 29 8	24° 0'	20 39 7
18	304 42 35 3	310 42 44 6	1 9 14 3	S. 0° 37' 2 6	25° 0'	21 24 9
19	316 45 41 1	322 51 52 2	S. 0° 4 12 9	N. 0° 28' 55 5	26° 0'	22 8 6
20	329 1 40 8	335 15 26 6	N. 1° 2 0 6	1 34 40 2	27° 0'	22 51 4
21	341 33 23 5	347 55 41 9	2 6 29 7	2 37 4 2	28° 0'	23 34 4
22	354 22 25 4	0 53 34 3	3 5 57 0	3 32 42 6	29° 0'	♂
23	7 29 2 2	14 8 39 4	3 56 53 8	4 18 5 3	0° 4'	0 18 6
24	20 52 10 9	27 39 19 5	4 35 54 9	4 50 0 1	1° 4'	1 5 0
25	34 29 43 8	41 23 2 0	5 0 4 0	5 5 51 2	2° 4'	1 54 7
26	48 18 50 6	55 16 46 5	5 7 12 1	5 4 1 3	3° 4'	2 48 5
27	62 16 27 0	69 17 32 3	4 56 18 1	4 44 6 6	4° 4'	3
28	76 19 42 4	83 22 42 1	4 27 35 7	4 6 59 4	5° 4'	
29	90 26 16 2	97 30 13 4	3 42 34 9	3 14 45 2	6° 4'	
30	104 34 22 4	111 38 33 8	2 43 55 7	2 10 34 6	7°	
31	118 42 38 6	125 46 27 3	1 35 14 5	N. 0° 58' 28 5	8	
32	132 49 48 9	139 52 31 5	N. 0° 20' 52 5	S. 0° 16' 57 9	9	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
MONDAY 1.				WEDNESDAY 3.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	5 12 40.33	N. 27 30 33.9	11.07	0	7 20 7.91	N. 24 49 22
1	5 15 19.67	27 31 40.3	9.17	1	7 22 43.65	24 41 30
2	5 17 59.15	27 32 35.3	7.30	2	7 25 19.12	24 33 28
3	5 20 38.76	27 33 19.1	5.38	3	7 27 54.31	24 25 16
4	5 23 18.51	27 33 51.4	3.48	4	7 30 29.20	24 16 54
5	5 25 58.38	27 34 12.3	1.58	5	7 33 3.81	24 8 22
6	5 28 38.35	27 34 21.8	0.33	6	7 35 38.11	23 59 40
7	5 31 18.43	27 34 19.8	2.23	7	7 38 12.12	23 50 48
8	5 33 58.59	27 34 6.4	4.17	8	7 40 45.81	23 41 47
9	5 36 38.84	27 33 41.4	6.07	9	7 43 19.20	23 32 36
10	5 39 19.15	27 33 5.0	8.00	10	7 45 52.26	23 23 15
11	5 41 59.53	27 32 17.0	9.92	11	7 48 25.01	23 13 45
12	5 44 39.96	27 31 17.5	11.85	12	7 50 57.42	23 4 6
13	5 47 20.43	27 30 6.4	13.77	13	7 53 29.51	22 54 18
14	5 50 0.94	27 28 43.8	15.70	14	7 56 1.26	22 44 20
15	5 52 41.46	27 27 9.6	17.62	15	7 58 32.68	22 34 13
16	5 55 21.99	27 25 23.9	19.55	16	8 1 3.76	22 23 57
17	5 58 2.52	27 23 26.6	21.47	17	8 3 34.49	22 13 33
18	6 0 43.05	27 21 17.8	23.40	18	8 6 4.89	22 2 59
19	6 3 23.55	27 18 57.4	25.32	19	8 8 34.93	21 52 17
20	6 6 4.03	27 16 25.5	27.23	20	8 11 4.62	21 41 27
21	6 8 44.46	27 13 42.1	29.15	21	8 13 33.96	21 30 27
22	6 11 24.85	27 10 47.2	31.07	22	8 16 2.95	21 19 20
23	6 14 5.18	N. 27 7 40.8	32.98	23	8 18 31.58	N. 21 8 4
TUESDAY 2.				THURSDAY 4.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	6 16 45.44	N. 27 4 22.9	34.88	0	8 20 59.85	N. 20 56 40
1	6 19 25.62	27 0 53.6	36.80	1	8 23 27.76	20 45 8
2	6 22 5.71	26 57 12.8	38.70	2	8 25 55.31	20 33 28
3	6 24 45.71	26 53 20.6	40.58	3	8 28 22.49	20 21 41
4	6 27 25.60	26 49 17.1	42.48	4	8 30 49.32	20 9 45
5	6 30 5.37	26 45 2.2	44.37	5	8 33 15.78	19 57 42
6	6 32 45.02	26 40 36.0	46.23	6	8 35 41.87	19 45 31
7	6 35 24.53	26 35 58.6	48.12	7	8 38 7.60	19 33 13
8	6 38 3.91	26 31 9.9	49.98	8	8 40 32.96	19 20 48
9	6 40 43.13	26 26 10.0	51.83	9	8 42 57.96	19 8 15
10	6 43 22.20	26 20 59.0	53.70	10	8 45 22.59	18 55 35
11	6 46 1.09	26 15 36.8	55.53	11	8 47 46.86	18 42 49
12	6 48 39.81	26 10 3.6	57.38	12	8 50 10.76	18 29 55
13	6 51 18.34	26 4 19.3	59.20	13	8 52 34.29	18 16 55
14	6 53 56.68	25 58 24.1	61.02	14	8 54 57.47	18 3 48
15	6 56 34.83	25 52 18.0	62.82	15	8 57 20.27	17 50 34
16	6 59 12.76	25 46 1.1	64.63	16	8 59 42.72	17 37 14
17	7 1 50.48	25 39 33.3	66.42	17	9 2 4.80	17 23 48
18	7 4 27.98	25 32 54.8	68.18	18	9 4 26.53	17 10 16
19	7 7 5.25	25 26 5.7	69.97	19	9 6 47.89	16 56 37
20	7 9 42.28	25 19 5.9	71.72	20	9 9 8.90	16 42 53
21	7 12 19.07	25 11 55.6	73.47	21	9 11 29.56	16 29 2
22	7 14 55.61	25 4 34.8	75.20	22	9 13 49.86	16 15 6
23	7 17 31.89	24 57 3.6	76.92	23	9 16 9.81	16 1 5
24	7 20 7.91	N. 24 49 22.1		24	9 18 29.41	N. 15 46 58

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

ar.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 5.				SUNDAY 7.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 18 29.41	N. 15 46 58.0	142.10	0	11 4 18.49	N. 3 17 55.2	163.55
1	9 20 48.66	15 32 45.4	142.97	1	11 6 25.00	3 1 33.9	163.55
2	9 23 7.57	15 18 27.6	143.83	2	11 8 31.34	2 45 12.6	163.58
3	9 25 26.13	15 4 4.6	144.68	3	11 10 37.52	2 28 51.1	163.55
4	9 27 44.35	14 49 36.5	145.48	4	11 12 43.55	2 12 29.8	163.53
5	9 30 2.23	14 35 3.6	146.32	5	11 14 49.43	1 56 8.6	163.48
6	9 32 19.78	14 20 25.7	147.08	6	11 16 55.17	1 39 47.7	163.43
7	9 34 36.99	14 5 43.2	147.85	7	11 19 0.76	1 23 27.1	163.35
8	9 36 53.87	13 50 56.1	148.60	8	11 21 6.21	1 7 7.0	163.27
9	9 39 10.42	13 36 4.5	149.33	9	11 23 11.54	0 50 47.4	163.15
10	9 41 26.65	13 21 8.5	150.03	10	11 25 16.73	0 34 28.5	163.05
11	9 43 42.56	13 6 8.3	150.73	11	11 27 21.80	0 18 10.2	162.90
12	9 45 58.15	12 51 3.9	151.40	12	11 29 26.75	N. 0 1 52.8	162.77
13	9 48 13.42	12 35 55.5	152.07	13	11 31 31.59	S. 0 14 23.8	162.58
14	9 50 28.38	12 20 43.1	152.68	14	11 33 36.32	0 30 39.3	162.42
15	9 52 43.04	12 5 27.0	153.30	15	11 35 40.94	0 46 53.8	162.23
16	9 54 57.38	11 50 7.2	153.90	16	11 37 45.47	1 3 7.2	162.00
17	9 57 11.43	11 34 43.8	154.48	17	11 39 49.90	1 19 19.2	161.80
18	9 59 25.17	11 19 16.9	155.03	18	11 41 54.23	1 35 30.0	161.55
19	10 1 38.62	11 3 46.7	155.58	19	11 43 58.48	1 51 39.3	161.30
20	10 3 51.78	10 48 13.2	156.10	20	11 46 2.64	2 7 47.1	161.03
21	10 6 4.66	10 32 36.6	156.62	21	11 48 6.72	2 23 53.3	160.75
22	10 8 17.25	10 16 56.9	157.08	22	11 50 10.73	2 39 57.8	160.47
23	10 10 29.56	N. 10 1 14.4	157.57	23	11 52 14.67	S. 2 56 0.6	160.15
SATURDAY 6.				MONDAY 8.			
0	10 12 41.59	N. 9 45 29.0	158.00	0	11 54 18.54	S. 3 12 1.5	159.83
1	10 14 53.35	9 29 41.0	158.43	1	11 56 22.35	3 28 0.5	159.48
2	10 17 4.85	9 13 50.4	158.85	2	11 58 26.09	3 43 57.4	159.13
3	10 19 16.08	8 57 57.3	159.25	3	12 0 29.79	3 59 52.2	158.78
4	10 21 27.05	8 42 1.8	159.62	4	12 2 33.43	4 15 44.9	158.40
5	10 23 37.76	8 26 4.1	159.98	5	12 4 37.02	4 31 35.3	158.02
6	10 25 48.22	8 10 4.2	160.32	6	12 6 40.58	4 47 23.4	157.60
7	10 27 58.44	7 54 2.3	160.65	7	12 8 44.10	5 3 9.0	157.20
8	10 30 8.41	7 37 58.4	160.97	8	12 10 47.58	5 18 52.2	156.77
9	10 32 18.15	7 21 52.6	161.23	9	12 12 51.04	5 34 32.8	156.32
10	10 34 27.65	7 5 45.2	161.53	10	12 14 54.47	5 50 10.7	155.88
11	10 36 36.92	6 49 36.0	161.77	11	12 16 57.87	6 5 46.0	155.40
12	10 38 45.96	6 33 25.4	162.02	12	12 19 1.26	6 21 18.4	154.98
13	10 40 54.78	6 17 13.3	162.23	13	12 21 4.64	6 36 48.0	154.43
14	10 43 3.39	6 0 59.9	162.45	14	12 23 8.01	6 52 14.6	153.93
15	10 45 11.79	5 44 45.2	162.62	15	12 25 11.37	7 7 1	153.42
16	10 47 19.97	5 28 29.5	162.80	16	12 27 14.73	7 21	88
17	10 49 27.96	5 12 12.7	162.95	17	12 29 18.10	7	
18	10 51 35.74	4 55 55.0	163.08	18	12 31 21.47		
19	10 53 43.33	4 39 36.5	163.22	19	12 33 24.85		
20	10 55 50.72	4 23 17.2	163.30	20	12 35 28.24		
21	10 57 57.93	4 6 57.4	163.38	21	12 37 31.63		
22	11 0 4.96	3 50 37.1	163.47	22	12 39 35.08		
23	11 2 11.81	3 34 16.3	163.52	23	12 41 38.53		
24	11 4 18.49	N. 3 17 55.2		24	12 43 42.01		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.
<i>TUESDAY 9.</i>				<i>THURSDAY 11.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	12 43 42.01	S. 9 23 42.0	148.20	0	14 23 57.82	S. 19 45 26.1
1	12 45 45.52	9 38 31.2	147.57	1	14 26 5.89	19 56 5.5
2	12 47 49.06	9 53 16.6	146.92	2	14 28 14.10	20 6 37.1
3	12 49 52.64	10 7 58.1	146.27	3	14 30 22.44	20 17 2.1
4	12 51 56.27	10 22 35.7	145.58	4	14 32 30.92	20 27 21.1
5	12 53 59.93	10 37 9.2	144.92	5	14 34 39.53	20 37 33.1
6	12 56 3.65	10 51 38.7	144.20	6	14 36 48.28	20 47 38.1
7	12 58 7.41	11 6 3.9	143.52	7	14 38 57.17	20 57 37.1
8	13 0 11.23	11 20 25.0	142.80	8	14 41 6.19	21 7 29.1
9	13 2 15.10	11 34 41.8	142.08	9	14 43 15.35	21 17 14.1
10	13 4 19.04	11 48 54.3	141.33	10	14 45 24.65	21 26 52.1
11	13 6 23.04	12 3 2.3	140.60	11	14 47 34.09	21 36 23.1
12	13 8 27.10	12 17 5.9	139.85	12	14 49 43.66	21 45 48.1
13	13 10 31.23	12 31 5.0	139.08	13	14 51 53.37	21 55 5.1
14	13 12 35.44	12 44 59.5	138.32	14	14 54 3.21	22 4 16.1
15	13 14 39.72	12 58 49.4	137.52	15	14 56 13.19	22 13 20.0
16	13 16 44.08	13 12 34.5	136.72	16	14 58 23.31	22 22 16.1
17	13 18 48.52	13 26 14.8	135.93	17	15 0 33.56	22 31 5.8
18	13 20 53.04	13 39 50.4	135.10	18	15 2 43.94	22 39 48.1
19	13 22 57.64	13 53 21.0	134.27	19	15 4 54.46	22 48 23.1
20	13 25 2.34	14 6 46.6	133.45	20	15 7 5.10	22 56 51.0
21	13 27 7.12	14 20 7.3	132.58	21	15 9 15.88	23 5 11.6
22	13 29 11.99	14 33 22.8	131.75	22	15 11 26.79	23 13 25.0
23	13 31 16.97	S. 14 46 33.3	130.87	23	15 13 37.83	S. 23 21 31.1
<i>WEDNESDAY 10.</i>				<i>FRIDAY 12.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	13 33 22.03	S. 14 59 38.5	129.98	0	15 15 48.99	S. 23 29 29.8
1	13 35 27.20	15 12 38.4	129.12	1	15 18 0.28	23 37 21.2
2	13 37 32.47	15 25 33.1	128.22	2	15 20 11.69	23 45 5.1
3	13 39 37.84	15 38 22.4	127.30	3	15 22 23.23	23 52 41.7
4	13 41 43.32	15 51 6.2	126.40	4	15 24 34.89	24 0 10.7
5	13 43 48.91	16 3 44.6	125.48	5	15 26 46.67	24 7 32.3
6	13 45 54.60	16 16 17.5	124.55	6	15 28 58.57	24 14 46.4
7	13 48 0.41	16 28 44.8	123.60	7	15 31 10.59	24 21 52.9
8	13 50 6.34	16 41 6.4	122.67	8	15 33 22.72	24 28 51.9
9	13 52 12.37	16 53 22.4	121.72	9	15 35 34.97	24 35 43.2
10	13 54 18.53	17 5 32.7	120.73	10	15 37 47.32	24 42 26.9
11	13 56 24.80	17 17 37.1	119.78	11	15 39 59.79	24 49 3.0
12	13 58 31.19	17 29 35.8	118.80	12	15 42 12.37	24 55 31.4
13	14 0 37.71	17 41 28.6	117.80	13	15 44 25.05	25 1 52.1
14	14 2 44.35	17 53 15.4	116.82	14	15 46 37.84	25 8 5.1
15	14 4 51.12	18 4 56.3	115.82	15	15 48 50.73	25 14 10.3
16	14 6 58.01	18 16 31.2	114.78	16	15 51 3.72	25 20 7.7
17	14 9 5.03	18 27 59.9	113.77	17	15 53 16.80	25 25 57.4
18	14 11 12.18	18 39 22.5	112.75	18	15 55 29.98	25 31 39.2
19	14 13 19.46	18 50 39.0	111.70	19	15 57 43.24	25 37 13.3
20	14 15 26.87	19 1 49.2	110.65	20	15 59 56.60	25 42 39.4
21	14 17 34.40	19 12 53.1	109.60	21	16 2 10.04	25 47 57.7
22	14 19 42.07	19 23 50.7	108.55	22	16 4 23.57	25 53 8.1
23	14 21 49.88	19 34 42.0	107.47	23	16 6 37.17	25 58 10.6
24	14 23 57.82	S. 19 45 26.8		24	16 8 50.86	S. 26 3 5.2

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

our.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 13.				MONDAY 15.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	16 8 50.86	S. 26 3 5.2	47.77	0	17 56 12.65	S. 27 20 54.4	16.58
1	16 11 4.62	26 7 51.8	46.45	1	17 58 25.88	27 19 14.9	17.90
2	16 13 18.45	26 12 30.5	45.12	2	18 0 39.01	27 17 27.5	19.20
3	16 15 32.35	26 17 1.2	43.80	3	18 2 52.04	27 15 32.3	20.50
4	16 17 46.31	26 21 24.0	42.45	4	18 5 4.95	27 13 29.3	21.82
5	16 20 0.34	26 25 38.7	41.12	5	18 7 17.76	27 11 18.4	23.10
6	16 22 14.42	26 29 45.4	39.78	6	18 9 30.45	27 8 59.8	24.40
7	16 24 28.56	26 33 44.1	38.45	7	18 11 43.03	27 6 33.4	25.70
8	16 26 42.76	26 37 34.8	37.12	8	18 13 55.48	27 3 59.2	26.97
9	16 28 57.00	26 41 17.5	35.75	9	18 16 7.81	27 1 17.4	28.27
10	16 31 11.29	26 44 52.0	34.42	10	18 18 20.01	26 58 27.8	29.53
11	16 33 25.62	26 48 18.5	33.08	11	18 20 32.09	26 55 30.6	30.82
12	16 35 39.99	26 51 37.0	31.73	12	18 22 44.03	26 52 25.7	32.08
13	16 37 54.40	26 54 47.4	30.38	13	18 24 55.84	26 49 13.2	33.35
14	16 40 8.84	26 57 49.7	29.02	14	18 27 7.50	26 45 53.1	34.62
15	16 42 23.31	27 0 43.8	27.68	15	18 29 19.03	26 42 25.4	35.88
16	16 44 37.80	27 3 29.9	26.33	16	18 31 30.41	26 38 50.1	37.13
17	16 46 52.32	27 6 7.9	24.98	17	18 33 41.65	26 35 7.3	38.37
18	16 49 6.86	27 8 37.8	23.63	18	18 35 52.74	26 31 17.1	39.63
19	16 51 21.41	27 10 59.6	22.28	19	18 38 3.67	26 27 19.3	40.87
20	16 53 35.97	27 13 13.3	20.92	20	18 40 14.45	26 23 14.1	42.10
21	16 55 50.53	27 15 18.8	19.58	21	18 42 25.08	26 19 1.5	43.33
22	16 58 5.10	27 17 16.3	18.22	22	18 44 35.54	26 14 41.5	44.55
23	17 0 19.67	S. 27 19 5.6	16.87	23	18 46 45.85	S. 26 10 14.2	45.78
SUNDAY 14.				TUESDAY 16.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	17 2 34.24	S. 27 20 46.8	15.52	0	18 48 55.99	S. 26 5 39.5	47.00
1	17 4 48.80	27 22 19.9	14.17	1	18 51 5.97	26 0 57.5	48.20
2	17 7 3.34	27 23 44.9	12.82	2	18 53 15.78	25 56 8.3	49.42
3	17 9 17.87	27 25 1.8	11.45	3	18 55 25.42	25 51 11.8	50.62
4	17 11 32.38	27 26 10.5	10.12	4	18 57 34.88	25 46 8.1	51.80
5	17 13 46.87	27 27 11.2	8.75	5	18 59 44.18	25 40 57.3	53.00
6	17 16 1.33	27 28 3.7	7.42	6	19 1 53.30	25 35 39.3	54.18
7	17 18 15.76	27 28 48.2	6.07	7	19 4 2.24	25 30 14.2	55.37
8	17 20 30.15	27 29 24.6	4.72	8	19 6 11.00	25 24 42.0	56.53
9	17 22 44.51	27 29 52.9	3.37	9	19 8 19.58	25 19 2.8	57.72
10	17 24 58.82	27 30 18.1	2.03	10	19 10 27.98	25 13 16.5	58.87
11	17 27 13.09	27 30 25.3	0.68	11	19 12 36.20	25 7 23.3	60.02
12	17 29 27.30	27 30 29.4	0.65	12	19 14 44.22	25 1 23.2	61.17
13	17 31 41.46	27 30 25.5	2.00	13	19 16 52.07	24 55 16.2	62.32
14	17 33 55.57	27 30 13.5	3.33	14	19 18 59.72	24 49 2.3	63.47
15	17 36 9.62	27 29 53.5	4.68	15	19 21 7.19	24 42 41.5	64.58
16	17 38 23.60	27 29 25.4	6.00	16	19 23 14.47	24 36 14.0	65.72
17	17 40 37.51	27 28 49.4	7.33	17	19 25 21.56	24 29 39.7	66.85
18	17 42 51.35	27 28 5.4	8.67	18	19 27 28.46	24 22 58.6	67.95
19	17 45 5.11	27 27 13.4	9.98	19	19 29 35.16	24 16 10.0	69.07
20	17 47 18.79	27 26 13.5	11.32	20	19 31 41.67	24 9 16	
21	17 49 32.39	27 25 5.6	12.63	21	19 33 47.99	24 2	
22	17 51 45.90	27 23 49.8	13.97	22	19 35 54.11	23 55	
23	17 53 59.33	27 22 26.0	15.27	23	19 38 0.03	23 47	
24	17 56 12.65	S. 27 20 54.4		24	19 40 5.76	S. 23 40	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
WEDNESDAY 17.				FRIDAY 19.		
0	19 40 5 ^h 76 ^m	S. 23 40 33 ^s 2 ^u	74 ^u 52	0	21 16 57 ^h 93 ^m	S. 15 53 40 ^s 0 ^u
1	19 42 11 ^h 29 ^m	23 33 6 ^s 1 ^u	75 ^u 58	1	21 18 54 ^h 85 ^m	15 41 50 ^s 6 ^u
2	19 44 16 ^h 63 ^m	23 25 32 ^s 6 ^u	76 ^u 65	2	21 20 51 ^h 64 ^m	15 29 56 ^s 9 ^u
3	19 46 21 ^h 77 ^m	23 17 52 ^s 7 ^u	77 ^u 72	3	21 22 48 ^h 28 ^m	15 17 58 ^s 8 ^u
4	19 48 26 ^h 71 ^m	23 10 6 ^s 4 ^u	78 ^u 77	4	21 24 44 ^h 80 ^m	15 5 56 ^s 3 ^u
5	19 50 31 ^h 45 ^m	23 2 13 ^s 8 ^u	79 ^u 80	5	21 26 41 ^h 18 ^m	14 53 49 ^s 6 ^u
6	19 52 36 ^h 00 ^m	22 54 15 ^s 0 ^u	80 ^u 85	6	21 28 37 ^h 44 ^m	14 41 38 ^s 7 ^u
7	19 54 40 ^h 35 ^m	22 46 9 ^s 9 ^u	81 ^u 88	7	21 30 33 ^h 56 ^m	14 29 23 ^s 7 ^u
8	19 56 44 ^h 51 ^m	22 37 58 ^s 6 ^u	82 ^u 92	8	21 32 29 ^h 57 ^m	14 17 4 ^s 5 ^u
9	19 58 48 ^h 46 ^m	22 29 41 ^s 1 ^u	83 ^u 93	9	21 34 25 ^h 45 ^m	14 4 41 ^s 2 ^u
10	20 0 52 ^h 22 ^m	22 21 17 ^s 5 ^u	84 ^u 93	10	21 36 21 ^h 22 ^m	13 52 13 ^s 9 ^u
11	20 2 55 ^h 78 ^m	22 12 47 ^s 9 ^u	85 ^u 95	11	21 38 16 ^h 87 ^m	13 39 42 ^s 6 ^u
12	20 4 59 ^h 15 ^m	22 4 12 ^s 2 ^u	86 ^u 95	12	21 40 12 ^h 41 ^m	13 27 7 ^s 4 ^u
13	20 7 2 ^h 32 ^m	21 55 30 ^s 5 ^u	87 ^u 93	13	21 42 7 ^h 84 ^m	13 14 28 ^s 3 ^u
14	20 9 5 ^h 30 ^m	21 46 42 ^s 9 ^u	88 ^u 93	14	21 44 3 ^h 17 ^m	13 1 45 ^s 4 ^u
15	20 11 8 ^h 08 ^m	21 37 49 ^s 3 ^u	89 ^u 90	15	21 45 58 ^h 39 ^m	12 48 58 ^s 7 ^u
16	20 13 10 ^h 67 ^m	21 28 49 ^s 9 ^u	90 ^u 88	16	21 47 53 ^h 52 ^m	12 36 8 ^s 2 ^u
17	20 15 13 ^h 07 ^m	21 19 44 ^s 6 ^u	91 ^u 85	17	21 49 48 ^h 54 ^m	12 23 14 ^s 1 ^u
18	20 17 15 ^h 27 ^m	21 10 33 ^s 5 ^u	92 ^u 80	18	21 51 43 ^h 47 ^m	12 10 16 ^s 2 ^u
19	20 19 17 ^h 29 ^m	21 1 16 ^s 7 ^u	93 ^u 75	19	21 53 38 ^h 31 ^m	11 57 14 ^s 8 ^u
20	20 21 19 ^h 11 ^m	20 51 54 ^s 2 ^u	94 ^u 70	20	21 55 33 ^h 07 ^m	11 44 9 ^s 9 ^u
21	20 23 20 ^h 74 ^m	20 42 26 ^s 0 ^u	95 ^u 63	21	21 57 27 ^h 74 ^m	11 31 1 ^s 4 ^u
22	20 25 22 ^h 18 ^m	20 32 52 ^s 2 ^u	96 ^u 57	22	21 59 22 ^h 33 ^m	11 17 49 ^s 5 ^u
23	20 27 23 ^h 43 ^m	S. 20 23 12 ^s 8 ^u	97 ^u 48	23	22 1 16 ^h 84 ^m	S. 11 4 34 ^s 1 ^u
THURSDAY 18.				SATURDAY 20.		
0	20 29 24 ^h 50 ^m	S. 20 13 27 ^s 9 ^u	98 ^u 40	0	22 3 11 ^h 27 ^m	S. 10 51 15 ^s 4 ^u
1	20 31 25 ^h 38 ^m	20 3 37 ^s 5 ^u	99 ^u 32	1	22 5 5 ^h 63 ^m	10 37 53 ^s 4 ^u
2	20 33 26 ^h 08 ^m	19 53 41 ^s 6 ^u	100 ^u 22	2	22 6 59 ^h 93 ^m	10 24 28 ^s 1 ^u
3	20 35 26 ^h 59 ^m	19 43 40 ^s 3 ^u	101 ^u 10	3	22 8 54 ^h 16 ^m	10 10 59 ^s 6 ^u
4	20 37 26 ^h 92 ^m	19 33 33 ^s 7 ^u	102 ^u 00	4	22 10 48 ^h 33 ^m	9 57 27 ^s 9 ^u
5	20 39 27 ^h 07 ^m	19 23 21 ^s 7 ^u	102 ^u 87	5	22 12 42 ^h 44 ^m	9 43 53 ^s 1 ^u
6	20 41 27 ^h 05 ^m	19 13 4 ^s 5 ^u	103 ^u 75	6	22 14 36 ^h 49 ^m	9 30 15 ^s 2 ^u
7	20 43 26 ^h 84 ^m	19 2 42 ^s 0 ^u	104 ^u 62	7	22 16 30 ^h 50 ^m	9 16 34 ^s 4 ^u
8	20 45 26 ^h 46 ^m	18 52 14 ^s 3 ^u	105 ^u 48	8	22 18 24 ^h 45 ^m	9 2 50 ^s 6 ^u
9	20 47 25 ^h 90 ^m	18 41 41 ^s 4 ^u	106 ^u 32	9	22 20 18 ^h 36 ^m	8 49 3 ^s 8 ^u
10	20 49 25 ^h 17 ^m	18 31 3 ^s 5 ^u	107 ^u 18	10	22 22 12 ^h 23 ^m	8 35 14 ^s 2 ^u
11	20 51 24 ^h 27 ^m	18 20 20 ^s 4 ^u	108 ^u 00	11	22 24 6 ^h 06 ^m	8 21 21 ^s 9 ^u
12	20 53 23 ^h 20 ^m	18 9 32 ^s 4 ^u	108 ^u 83	12	22 25 59 ^h 86 ^m	8 7 26 ^s 7 ^u
13	20 55 21 ^h 97 ^m	17 58 39 ^s 4 ^u	109 ^u 67	13	22 27 53 ^h 63 ^m	7 53 28 ^s 9 ^u
14	20 57 20 ^h 57 ^m	17 47 41 ^s 4 ^u	110 ^u 47	14	22 29 47 ^h 36 ^m	7 39 28 ^s 4 ^u
15	20 59 19 ^h 01 ^m	17 36 38 ^s 6 ^u	111 ^u 28	15	22 31 41 ^h 08 ^m	7 25 25 ^s 3 ^u
16	21 1 17 ^h 28 ^m	17 25 30 ^s 9 ^u	112 ^u 08	16	22 33 34 ^h 78 ^m	7 11 19 ^s 7 ^u
17	21 3 15 ^h 40 ^m	17 14 18 ^s 4 ^u	112 ^u 88	17	22 35 28 ^h 46 ^m	6 57 11 ^s 6 ^u
18	21 5 13 ^h 36 ^m	17 3 1 ^s 1 ^u	113 ^u 67	18	22 37 22 ^h 13 ^m	6 43 1 ^s 1 ^u
19	21 7 11 ^h 16 ^m	16 51 39 ^s 1 ^u	114 ^u 43	19	22 39 15 ^h 79 ^m	6 28 48 ^s 2 ^u
20	21 9 8 ^h 81 ^m	16 40 12 ^s 5 ^u	115 ^u 22	20	22 41 9 ^h 45 ^m	6 14 32 ^s 9 ^u
21	21 11 6 ^h 31 ^m	16 28 41 ^s 2 ^u	115 ^u 98	21	22 43 3 ^h 10 ^m	6 0 15 ^s 4 ^u
22	21 13 3 ^h 67 ^m	16 17 5 ^s 3 ^u	116 ^u 73	22	22 44 56 ^h 76 ^m	5 45 55 ^s 6 ^u
23	21 15 0 ^h 87 ^m	16 5 24 ^s 9 ^u	117 ^u 48	23	22 46 50 ^h 43 ^m	5 31 33 ^s 7 ^u
24	21 16 57 ^h 93 ^m	S. 15 53 40 ^s 0 ^u		24	22 48 44 ^h 11 ^m	S. 5 17 9 ^s 7 ^u

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>SUNDAY 21.</i>				<i>TUESDAY 23.</i>		
h m s	° ' "	"		h m s	° ' "	"
48 44 11	S. 5 17 9 7	144 35	0	0 21 12 32	N. 6 35 51 7	148 65
50 37 81	5 2 43 6	144 68	1	0 23 11 53	6 50 43 6	148 47
52 31 52	4 48 15 5	145 00	2	0 25 10 96	7 5 34 4	148 25
54 25 25	4 33 45 5	145 33	3	0 27 10 61	7 20 23 9	148 05
56 19 01	4 19 13 5	145 62	4	0 29 10 48	7 35 12 2	147 80
58 12 81	4 4 39 8	145 92	5	0 31 10 59	7 49 59 0	147 57
0 6 63	3 50 4 3	146 22	6	0 33 10 94	8 4 44 4	147 32
2 0 50	3 35 27 0	146 48	7	0 35 11 52	8 19 28 3	147 03
3 54 40	3 20 48 1	146 75	8	0 37 12 35	8 34 10 5	146 77
5 48 36	3 6 7 6	147 00	9	0 39 13 42	8 48 51 1	146 45
7 42 36	2 51 25 6	147 25	10	0 41 14 75	9 3 29 8	146 15
9 36 41	2 36 42 1	147 48	11	0 43 16 33	9 18 6 7	145 83
11 30 52	2 21 57 2	147 72	12	0 45 18 18	9 32 41 7	145 50
13 24 69	2 7 10 9	147 92	13	0 47 20 29	9 47 14 7	145 15
15 18 94	1 52 23 4	148 13	14	0 49 22 66	10 1 45 6	144 77
17 13 25	1 37 34 6	148 33	15	0 51 25 31	10 16 14 2	144 42
19 7 63	1 22 44 6	148 52	16	0 53 28 23	10 30 40 7	144 00
21 2 09	1 7 53 5	148 68	17	0 55 31 44	10 45 4 7	143 60
22 56 64	0 53 1 4	148 85	18	0 57 34 93	10 59 26 3	143 18
24 51 27	0 38 8 3	149 02	19	0 59 38 71	11 13 45 4	142 75
26 45 99	0 23 14 2	149 17	20	1 1 42 78	11 28 1 9	142 30
28 40 81	S. 0 8 19 2	149 28	21	1 3 47 14	11 42 15 7	141 83
30 35 73	N. 0 6 36 5	149 42	22	1 5 51 81	11 56 26 7	141 35
32 30 75	N. 0 21 33 0	149 53	23	1 7 56 78	N. 12 10 34 8	140 87
<i>MONDAY 22.</i>				<i>WEDNESDAY 24.</i>		
h m s	° ' "	"		h m s	° ' "	"
34 25 87	N. 0 36 30 2	149 63	0	1 10 2 07	N. 12 24 40 0	140 35
36 21 12	0 51 28 0	149 73	1	1 12 7 67	12 38 42 1	139 82
38 16 47	1 6 26 4	149 82	2	1 14 13 58	12 52 41 0	139 30
40 11 95	1 21 25 3	149 87	3	1 16 19 81	13 6 36 8	138 73
42 7 55	1 36 24 5	149 95	4	1 18 26 36	13 20 29 2	138 17
44 3 28	1 51 24 2	149 98	5	1 20 33 24	13 34 18 2	137 58
45 59 15	2 6 24 1	150 02	6	1 22 40 45	13 48 3 7	136 98
47 55 15	2 21 24 2	150 05	7	1 24 47 99	14 1 45 6	136 38
49 51 29	2 36 24 5	150 07	8	1 26 55 87	14 15 23 9	135 75
51 47 58	2 51 24 9	150 07	9	1 29 4 09	14 28 58 4	135 10
53 44 02	3 6 25 3	150 05	10	1 31 12 65	14 42 29 0	134 45
55 40 61	3 21 25 6	150 03	11	1 33 21 56	14 55 55 7	133 78
57 37 36	3 36 25 8	150 00	12	1 35 30 81	15 9 18 4	133 16
59 34 27	3 51 25 8	149 96	13	1 37 40 42	15 22 37 0	132 38
1 31 36	4 6 25 5	149 88	14	1 39 50 38	15 35 51 3	131 67
3 28 61	4 21 24 8	149 83	15	1 42 0 70	15 49 1 3	130 22
5 26 04	4 36 23 8	149 73	16	1 44 11 38	16 2 6	
7 23 65	4 51 22 2	149 65	17	1 46 22 43	16 15	
9 21 44	5 6 20 1	149 55	18	1 48 33 84	16 28	
11 19 43	5 21 17 4	149 43	19	1 50 45 62	16 4	
13 17 61	5 36 14 0	149 30	20	1 52 57 77	16	
15 15 98	5 51 9 8	149 15	21	1 55 10 30	1	
17 14 55	6 6 4 7	149 00	22	1 57 23 20	?	
19 13 33	6 20 58 7	148 83	23	1 59 36 49		
21 12 32	N. 6 35 51 7		24	2 1 50 15	N	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
THURSDAY 25.				SATURDAY 27.		
0	2 ^h 1 ^m 50 ^s 15	N. 17° 44' 1"	123 ^s 58	0	3 ^h 56 ^m 25 ^s 86	N. 25° 28' 22"
1	2 4 4 20	17 56 22 7	122 70	1	3 58 58 15	25 34 39
2	2 6 18 63	18 8 38 9	121 78	2	4 1 30 74	25 40 45
3	2 8 33 45	18 20 49 6	120 85	3	4 4 3 64	25 46 41
4	2 10 48 66	18 32 54 7	119 92	4	4 6 36 85	25 52 28
5	2 13 4 27	18 44 54 2	118 95	5	4 9 10 34	25 58 4
6	2 15 20 26	18 56 47 9	117 97	6	4 11 44 12	26 3 31
7	2 17 36 65	19 8 35 7	116 98	7	4 14 18 18	26 8 47
8	2 19 53 43	19 20 17 6	115 97	8	4 16 52 51	26 13 54
9	2 22 10 61	19 31 53 4	114 98	9	4 19 27 11	26 18 49
10	2 24 28 18	19 43 23 0	113 90	10	4 22 1 97	26 23 35
11	2 26 46 15	19 54 46 4	112 85	11	4 24 37 08	26 28 10
12	2 29 4 52	20 6 3 5	111 77	12	4 27 12 43	26 32 35
13	2 31 23 29	20 17 14 1	110 68	13	4 29 48 02	26 36 50
14	2 33 42 46	20 28 18 2	109 57	14	4 32 23 85	26 40 54
15	2 36 2 03	20 39 15 6	108 45	15	4 34 59 89	26 44 47
16	2 38 22 00	20 50 6 3	107 32	16	4 37 36 15	26 48 29
17	2 40 42 38	21 0 50 2	106 15	17	4 40 12 62	26 52 1
18	2 43 3 15	21 11 27 1	104 98	18	4 42 49 29	26 55 23
19	2 45 24 32	21 21 57 0	103 80	19	4 45 26 14	26 58 33
20	2 47 45 90	21 32 19 8	102 58	20	4 48 3 18	27 1 32
21	2 50 7 87	21 42 35 3	101 37	21	4 50 40 39	27 4 21
22	2 52 30 24	21 52 43 5	100 13	22	4 53 17 77	27 6 59
23	2 54 53 01	N. 22° 2 44 3	98 88	23	4 55 55 30	N. 27° 9 26
FRIDAY 26.				SUNDAY 28.		
0	2 57 16 17	N. 22° 12 37 6	97 62	0	4 58 32 98	N. 27° 11 42
1	2 59 39 73	22 22 23 3	96 33	1	5 1 10 81	27 13 47
2	3 2 3 69	22 32 1 3	95 03	2	5 3 48 76	27 15 40
3	3 4 28 05	22 41 31 5	93 70	3	5 6 26 84	27 17 23
4	3 6 52 79	22 50 53 7	92 38	4	5 9 5 02	27 18 55
5	3 9 17 93	23 0 8 0	91 05	5	5 11 43 31	27 20 15
6	3 11 43 45	23 9 14 3	89 67	6	5 14 21 70	27 21 25
7	3 14 9 36	23 18 12 3	88 30	7	5 17 0 17	27 22 23
8	3 16 35 65	23 27 2 1	86 90	8	5 19 38 71	27 23 10
9	3 19 2 32	23 35 43 5	85 50	9	5 22 17 32	27 23 46
10	3 21 29 37	23 44 16 5	84 08	10	5 24 55 99	27 24 11
11	3 23 56 79	23 52 41 0	82 63	11	5 27 34 70	27 24 24
12	3 26 24 59	24 0 56 8	81 18	12	5 30 13 44	27 24 26
13	3 28 52 76	24 9 3 9	79 72	13	5 32 52 22	27 24 17
14	3 31 21 29	24 17 2 2	78 25	14	5 35 31 01	27 23 57
15	3 33 50 19	24 24 51 7	76 73	15	5 38 9 81	27 23 25
16	3 36 19 44	24 32 32 1	75 23	16	5 40 48 61	27 22 42
17	3 38 49 05	24 40 3 5	73 72	17	5 43 27 40	27 21 48
18	3 41 19 01	24 47 25 8	72 17	18	5 46 6 17	27 20 43
19	3 43 49 32	24 54 38 8	70 62	19	5 48 44 91	27 19 26
20	3 46 19 96	25 1 42 5	69 07	20	5 51 23 62	27 17 58
21	3 48 50 95	25 8 36 9	67 48	21	5 54 2 28	27 16 19
22	3 51 22 26	25 15 21 8	65 90	22	5 56 40 88	27 14 29
23	3 53 53 90	25 21 57 2	64 28	23	5 59 19 42	27 12 27
24	3 56 25 86	N. 25° 28 22 9		24	6 1 57 87	N. 27° 10 15

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
MONDAY 29.				WEDNESDAY 31.			
0	h m s 6 1 57.87	N. 27 10 15.3	23.95	0	h m s 8 4 45.71	N. 21 59 29.2	103.00
1	6 4 36.25	27 7 51.6	25.82	1	8 7 11.93	21 49 11.2	104.33
2	6 7 14.53	27 5 16.7	27.65	2	8 9 37.80	21 38 45.2	105.65
3	6 9 52.71	27 2 30.8	29.52	3	8 12 3.31	21 28 11.3	106.97
4	6 12 30.78	26 59 33.7	31.33	4	8 14 28.47	21 17 29.5	108.25
5	6 15 8.73	26 56 25.7	33.18	5	8 16 53.27	21 6 40.0	109.52
6	6 17 46.55	26 53 6.6	35.00	6	8 19 17.72	20 55 42.9	110.78
7	6 20 24.24	26 49 36.6	36.83	7	8 21 41.80	20 44 38.2	112.02
8	6 23 1.78	26 45 55.6	38.65	8	8 24 5.53	20 33 26.1	113.25
9	6 25 39.17	26 42 3.7	40.47	9	8 26 28.91	20 22 6.6	114.47
10	6 28 16.40	26 38 0.9	42.25	10	8 28 51.92	20 10 39.8	115.65
11	6 30 53.45	26 33 47.4	44.07	11	8 31 14.57	19 59 5.9	116.83
12	6 33 30.33	26 29 23.0	45.85	12	8 33 36.87	19 47 24.9	117.98
13	6 36 7.02	26 24 47.9	47.63	13	8 35 58.81	19 35 37.0	119.13
14	6 38 43.52	26 20 2.1	49.40	14	8 38 20.39	19 23 42.2	120.27
15	6 41 19.81	26 15 5.7	51.17	15	8 40 41.62	19 11 40.6	121.38
16	6 43 55.90	26 9 58.7	52.93	16	8 43 2.49	18 59 32.3	122.47
17	6 46 31.77	26 4 41.1	54.67	17	8 45 23.00	18 47 17.5	123.55
18	6 49 7.42	25 59 13.1	56.42	18	8 47 43.17	18 34 56.2	124.62
19	6 51 42.84	25 53 34.6	58.13	19	8 50 2.98	18 22 28.5	125.67
20	6 54 18.03	25 47 45.8	59.87	20	8 52 22.45	18 9 54.5	126.68
21	6 56 52.97	25 41 46.6	61.57	21	8 54 41.56	17 57 14.4	127.72
22	6 59 27.67	25 35 37.2	63.27	22	8 57 0.32	17 44 28.1	128.72
23	7 2 2.11	N. 25 29 17.6	64.95	23	8 59 18.75	N. 17 31 35.8	129.68
TUESDAY 30.				THURSDAY, APRIL 1.			
0	7 4 36.29	N. 25 22 47.9	66.63	0	9 1 36.83	N. 17 18 37.7	
1	7 7 10.20	25 16 8.1	68.30				
2	7 9 43.84	25 9 18.3	69.95				
3	7 12 17.20	25 2 18.6	71.60				
4	7 14 50.28	24 55 9.0	73.23				
5	7 17 23.07	24 47 49.6	74.83				
6	7 19 55.57	24 40 20.6	76.45				
7	7 22 27.76	24 32 41.9	78.05				
8	7 24 59.66	24 24 53.6	79.62				
9	7 27 31.25	24 16 55.9	81.18				
10	7 30 2.53	24 8 48.8	82.73				
11	7 32 33.49	24 0 32.4	84.28				
12	7 35 4.12	23 52 6.7	85.80				
13	7 37 34.43	23 43 31.9	87.32				
14	7 40 4.42	23 34 48.0	88.80				
15	7 42 34.08	23 25 55.2	90.30				
16	7 45 3.40	23 16 53.4	91.75				
17	7 47 32.39	23 7 42.9	93.23				
18	7 50 1.04	22 58 23.5	94.65				
19	7 52 29.35	22 48 55.6	96.08				
20	7 54 57.32	22 39 19.1	97.50				
21	7 57 24.94	22 29 34.1	98.90				
22	7 59 52.21	22 19 40.7	100.27				
23	8 2 19.14	22 9 39.1	101.65				
24	8 4 45.71	N. 21 59 29.2					

PHASES OF THE MOON.

- Full Moon - - - 7 1 36.5
 ☾ Last Quarter - - 14 14 19.2
 ● New Moon - - - 22 14 36.2
 ☽ First Quarter - - 29 14 58.5

- ☾ Perigee - - - - - 4 4
 ☾ Apogee - - - - - 15 23
 ☾ Perigee - - - - - 30 23

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^b .	P.L. of diff.	VI ^b .	P.L. of diff.	IX ^a .
1	SUN W.	98 40 33	2617	100 19 5	2608	101 57 49	2600	103 36 44
	Venus W.	52 22 23	2631	54 0 36	2622	55 39 1	2613	57 17 39
	α Arietis W.	44 0 24	2327	45 45 45	2318	47 31 19	2307	49 17 8
	Aldebaran W.	15 31 6	3487	16 51 45	3257	18 16 47	3082	19 45 19
	Pollux E.	31 27 45	2343	29 42 48	2341	27 57 48	2339	26 12 43
	Regulus E.	68 10 24	2297	66 24 20	2289	64 38 4	2282	62 51 38
2	SUN W.	111 54 5	2554	113 34 3	2546	115 14 12	2540	116 54 30
	Venus W.	65 33 49	2562	67 13 36	2554	68 53 34	2547	70 33 42
	α Arietis W.	58 9 24	2257	59 56 27	2250	61 43 40	2243	63 31 4
	Aldebaran W.	27 41 17	2572	29 20 50	2531	31 1 20	2495	32 42 41
	Regulus E.	53 56 37	2238	52 9 6	2231	50 21 25	2225	48 33 35
	Spica ♀ E.	107 58 59	2241	106 11 33	2235	104 23 57	2228	102 36 11
3	SUN W.	125 18 5	2506	126 59 9	2502	128 40 20	2498	130 21 36
	Venus W.	78 56 42	2509	80 37 42	2504	82 18 50	2500	84 0 4
	α Arietis W.	72 30 25	2207	74 18 42	2202	76 7 6	2198	77 55 36
	Aldebaran W.	41 18 55	2354	43 3 36	2339	44 48 39	2326	46 34 1
	Regulus E.	39 32 18	2194	37 43 41	2189	35 54 57	2186	34 6 8
	Spica ♀ E.	93 35 12	2195	91 46 37	2190	89 57 55	2187	88 9 8
	Mars E.	107 22 59	2260	105 36 1	2254	103 48 54	2249	102 1 40
4	Venus W.	92 27 33	2480	94 9 14	2479	95 50 57	2477	97 32 42
	α Arietis W.	86 59 19	2182	88 48 14	2181	90 37 10	2180	92 26 8
	Aldebaran W.	55 24 39	2271	57 11 21	2266	58 58 10	2262	60 45 6
	Spica ♀ E.	79 4 2	2171	77 14 51	2170	75 25 39	2169	73 36 25
	Mars E.	93 4 3	2229	91 16 19	2228	89 28 33	2227	87 40 45
5	Venus W.	106 1 22	2482	107 43 1	2484	109 24 36	2488	111 6 6
	Aldebaran W.	69 40 42	2252	71 27 53	2253	73 15 2	2254	75 2 9
	Pollux W.	26 52 35	2227	28 40 22	2223	30 28 15	2222	32 16 10
	Spica ♀ E.	64 30 31	2176	62 41 27	2180	60 52 29	2182	59 3 35
	Mars E.	78 41 50	2232	76 54 10	2234	75 6 33	2239	73 19 3
6	Aldebaran W.	83 56 28	2279	85 42 59	2286	87 29 19	2293	89 15 29
	Pollux W.	41 15 27	2233	43 3 5	2239	44 50 34	2245	46 37 55
	Spica ♀ E.	50 0 52	2215	48 12 47	2222	46 24 52	2231	44 37 10
	Mars E.	64 23 19	2272	62 36 39	2280	60 50 10	2289	59 3 55
	Antares E.	95 49 39	2207	94 1 22	2214	92 13 15	2221	90 25 18
	Jupiter E.	106 51 11	2253	105 4 2	2260	103 17 3	2267	101 30 15
	Saturn E.	120 24 53	2244	118 37 31	2251	116 50 19	2258	115 3 17
7	Pollux W.	55 31 59	2292	57 18 10	2303	59 4 5	2313	60 49 46
	Regulus W.	18 30 12	2286	20 16 32	2295	22 2 39	2304	23 48 32
	Spica ♀ E.	35 41 59	2289	33 55 43	2302	32 9 46	2314	30 24 7
	Mars E.	50 16 21	2356	48 31 43	2370	46 47 25	2385	45 3 29
	Antares E.	81 28 45	2275	79 42 9	2286	77 55 49	2297	76 9 45
	Jupiter E.	92 39 14	2320	90 53 43	2331	89 8 28	2342	87 23 29
	Saturn E.	106 11 0	2308	104 25 12	2320	102 39 42	2330	100 54 26
8	Pollux W.	69 33 55	2385	71 17 51	2399	73 1 27	2413	74 44 43
	Regulus W.	32 33 49	2375	34 17 59	2389	36 1 50	2403	37 45 20
	Mars E.	36 29 51	2496	34 48 32	2520	33 7 46	2545	31 27 35

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.			P.L. of diff.	XV ^b .			P.L. of diff.	XVIII ^b .			P.L. of diff.	XXI ^b .			P.L. of diff.
		°	'	"		°	'	"		°	'	"		°	'	"	
N	W.	105	15	50	2583	106	55	8	2576	108	34	36	2568	110	14	15	2560
mus	W.	58	56	30	2595	60	35	32	2586	62	14	46	2577	63	54	12	2569
Arietis	W.	51	3	10	2289	52	49	25	2281	54	35	53	2272	56	22	33	2265
debaran	W.	21	16	39	2838	22	50	17	2752	24	25	48	2681	26	2	53	2623
llux	E.	24	27	43	2341	22	42	43	2346	20	57	51	2355	19	13	12	2369
egulus	E.	61	4	59	2266	59	18	10	2259	57	31	10	2252	55	43	59	2244
N	W.	118	34	57	2527	120	15	32	2522	121	56	15	2516	123	37	6	2510
mus	W.	72	14	0	2533	73	54	27	2526	75	35	4	2520	77	15	49	2514
Arietis	W.	65	18	38	2229	67	6	22	2224	68	54	14	2217	70	42	16	2212
debaran	W.	34	24	46	2435	36	7	31	2412	37	50	49	2390	39	34	39	2371
egulus	E.	46	45	36	2214	44	57	29	2208	43	9	13	2202	41	20	49	2198
ica ♀	E.	100	48	16	2216	99	0	12	2211	97	12	0	2205	95	23	40	2200
N	W.	132	2	58	2492	133	44	23	2489	135	25	52	2486	137	7	25	2485
mus	W.	85	41	25	2492	87	22	50	2488	89	4	20	2485	90	45	55	2482
Arietis	W.	79	44	12	2192	81	32	52	2189	83	21	38	2186	85	10	27	2184
debaran	W.	48	19	41	2303	50	5	36	2293	51	51	46	2285	53	38	7	2278
egulus	E.	32	17	14	2180	30	28	16	2177	28	39	14	2176	26	50	10	2174
ica ♀	E.	86	20	15	2180	84	31	17	2178	82	42	16	2175	80	53	10	2173
ars	E.	100	14	20	2241	98	26	53	2237	96	39	21	2234	94	51	44	2231
mus	W.	99	14	27	2477	100	56	12	2477	102	37	57	2478	104	19	41	2480
Arietis	W.	94	15	5	2180	96	4	3	2181	97	52	59	2182	99	41	53	2184
debaran	W.	62	32	7	2255	64	19	13	2253	66	6	21	2252	67	53	31	2252
ica ♀	E.	71	47	12	2170	69	57	59	2171	68	8	48	2172	66	19	38	2174
ars	E.	85	52	56	2227	84	5	8	2227	82	17	20	2227	80	29	33	2230
mus	W.	112	47	31	2496	114	28	50	2500	116	10	3	2506	117	51	8	2512
debaran	W.	76	49	12	2260	78	36	11	2264	80	23	4	2268	82	9	50	2274
llux	W.	34	4	6	2221	35	52	2	2223	37	39	55	2226	39	27	44	2230
ica ♀	E.	57	14	47	2191	55	26	6	2196	53	37	33	2202	51	49	8	2208
ars	E.	71	31	38	2247	69	44	20	2253	67	57	11	2258	66	10	10	2265
debaran	W.	91	1	28	2309	92	47	14	2318	94	32	48	2328	96	18	7	2337
llux	W.	48	25	7	2258	50	12	8	2266	51	58	58	2275	53	45	35	2283
ica ♀	E.	42	49	39	2247	41	2	22	2257	39	15	19	2267	37	28	31	2278
ars	E.	57	17	53	2308	55	32	5	2319	53	46	33	2331	52	1	18	2343
ntares	E.	88	37	34	2237	86	50	1	2246	85	2	42	2255	83	15	36	2265
ipiter	E.	99	43	37	2283	97	57	12	2290	96	10	58	2300	94	24	59	2310
turn	E.	113	16	25	2272	111	29	44	2281	109	43	16	2289	107	57	1	2299
llux	W.	62	35	10	2336	64	20	17	2347	66	5	8	2359	67	49	41	2373
egulus	W.	25	34	9	2326	27	19	30	2338	29	4	34	2350	30	49	21	2363
ica ♀	E.	28	38	47	2341	26	53	48	2357	25	9	11	2373	23	24	57	2390
ars	E.	43	19	54	2417	41	36	44	2434	39	53	58	2454	38	11	40	2475
ntares	E.	74	23	58	2321	72	38	29	2333	70	53	17	2345	69	8	23	2359
ipiter	E.	85	38	47	2364	83	54	21	2377	82	10	14	2390	80	26	25	2403
turn	E.	99	9	26	2353	97	24	43	2365	95	40	18	2377	93	56	11	2391
llux	W.	76	27	39	2441	78	10	16	2456	79	52	31	2471	81	34	25	2486
egulus	W.	39	28	31	2431	41	11	21	2446	42	53	51	2461	44	35	59	2476
ars	E.	29	48	2	2603	28	9	11	2636	26	31	5	2674	24	53	51	27

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o
8	Antares E.	67 23 49	2372	65 39 34	2385	63 55 38	2400	62 12
	Jupiter E.	78 42 55	2417	76 59 44	2431	75 16 54	2445	73 34
	Saturn E.	92 12 23	2404	90 28 54	2418	88 45 45	2431	87 2
9	Pollux W.	83 15 58	2501	84 57 10	2517	86 38 0	2533	88 18
	Regulus W.	46 17 46	2491	47 59 12	2507	49 40 16	2522	51 20
	Antares E.	53 39 19	2489	51 57 50	2505	50 16 43	2521	48 31
	Jupiter E.	65 7 7	2537	63 26 45	2553	61 46 46	2570	60 7
	Saturn E.	78 33 59	2522	76 53 17	2538	75 12 56	2553	73 33
	α Aquilæ E.	105 53 25	3208	104 27 25	3212	103 1 30	3218	101 31
10	Pollux W.	96 35 17	2629	98 13 33	2646	99 51 26	2661	101 28
	Regulus W.	59 39 1	2618	61 17 31	2634	62 55 40	2650	64 31
	Antares E.	40 17 45	2617	38 39 13	2633	37 1 3	2649	35 21
	Jupiter E.	51 54 51	2672	50 17 33	2690	48 40 39	2707	47 4
	Saturn E.	65 18 38	2652	63 40 53	2669	62 3 31	2685	60 20
	α Aquilæ E.	94 29 24	3280	93 4 49	3294	91 40 31	3309	90 10
	SUN E.	142 24 4	2970	140 53 13	2987	139 22 44	3004	137 52
11	Regulus W.	72 37 2	2744	74 12 43	2760	75 48 4	2775	77 23
	Spica ♀ W.	18 43 9	2785	20 17 57	2795	21 52 32	2805	23 26
	Antares E.	27 19 31	2744	25 43 49	2760	24 8 28	2774	22 33
	Jupiter E.	39 7 28	2815	37 33 20	2833	35 59 35	2853	34 26
	Saturn E.	52 27 5	2785	50 52 17	2801	49 17 50	2818	47 43
	α Aquilæ E.	83 21 17	3416	81 59 19	3437	80 37 44	3458	79 16
	SUN E.	130 27 5	3104	128 59 0	3120	127 31 15	3137	126 3
12	Regulus W.	85 13 24	2860	86 46 34	2873	88 19 27	2887	89 52
	Spica ♀ W.	31 14 57	2876	32 47 47	2887	34 20 22	2899	35 52
	Mars W.	18 21 1	3235	19 46 29	3194	21 12 45	3163	22 39
	Jupiter E.	26 45 58	2977	25 15 16	3001	23 45 4	3027	22 15
	Saturn E.	39 58 30	2914	38 26 29	2929	36 54 47	2945	35 23
	SUN E.	118 51 21	3228	117 25 45	3242	116 0 26	3256	114 35
13	Spica ♀ W.	43 30 49	2964	45 1 47	2974	46 32 32	2984	48 3
	Mars W.	29 58 47	3094	31 27 4	3092	32 55 23	3090	34 23
	Saturn E.	27 51 41	3044	26 22 23	3063	24 53 28	3082	23 24
	SUN E.	107 33 58	3332	106 10 23	3343	104 47 1	3354	103 23
14	Spica ♀ W.	55 33 13	3031	57 2 47	3038	58 32 13	3044	60 1
	Mars W.	41 45 28	3095	43 13 44	3096	44 41 58	3098	46 10
	Antares W.	9 39 19	3027	11 8 58	3034	12 38 29	3039	14 7
	SUN E.	96 30 48	3408	95 8 41	3415	93 46 41	3422	92 24
15	Spica ♀ W.	67 26 33	3069	68 55 20	3073	70 24 3	3074	71 52
	Mars W.	53 30 47	3104	54 58 52	3104	56 26 57	3104	57 55
	Antares W.	21 33 26	3065	23 2 18	3068	24 31 7	3070	25 59
	SUN E.	85 37 5	3451	84 15 46	3455	82 54 32	3457	81 33
16	Spica ♀ W.	79 15 46	3078	80 44 23	3077	82 13 1	3076	83 41
	Mars W.	65 15 43	3096	66 43 58	3093	68 12 16	3090	69 40
	Antares W.	33 23 24	3074	34 52 6	3072	36 20 50	3071	37 49
	Jupiter W.	22 5 27	3214	23 31 20	3200	24 57 29	3188	26 23
	SUN E.	74 47 44	3463	73 26 38	3461	72 5 30	3460	70 44

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
Antares	E.	60 28 48	2429	58 45 54	2443	57 3 21	2458	55 21 9	2474
Jupiter	E.	71 52 13	2475	70 10 25	2490	68 28 57	2505	66 47 51	2521
Saturn	E.	85 20 26	2461	83 38 18	2475	81 56 30	2491	80 15 4	2506
Pollux	W.	89 58 33	2564	91 38 17	2580	93 17 40	2597	94 56 39	2613
Regulus	W.	53 1 19	2554	54 41 17	2569	56 20 54	2586	58 0 8	2602
Antares	E.	46 55 36	2552	45 15 35	2568	43 35 56	2585	41 56 40	2600
Jupiter	E.	58 27 56	2603	56 49 5	2620	55 10 37	2637	53 32 32	2655
Saturn	E.	71 53 20	2586	70 14 6	2602	68 35 14	2619	66 56 45	2635
α Aquilæ	E.	100 10 3	3235	98 44 35	3244	97 19 18	3255	95 54 14	3267
Pollux	W.	103 6 8	2694	104 42 56	2710	106 19 23	2726	107 55 29	2741
Regulus	W.	66 10 52	2682	67 47 56	2698	69 24 39	2714	71 1 1	2729
Antares	E.	33 45 47	2681	32 8 41	2697	30 31 57	2713	28 55 34	2728
Jupiter	E.	45 28 1	2742	43 52 17	2760	42 16 57	2778	40 42 0	2797
Saturn	E.	58 49 54	2719	57 13 39	2735	55 37 45	2752	54 2 14	2769
α Aquilæ	E.	88 52 47	3342	87 29 24	3359	86 6 21	3377	84 43 38	3396
Sun	E.	136 22 49	3037	134 53 22	3054	133 24 16	3071	131 55 31	3087
Regulus	W.	78 57 46	2804	80 32 8	2818	82 6 12	2833	83 39 57	2847
Spica ♏	W.	25 1 1	2828	26 34 53	2839	28 8 30	2852	29 41 51	2863
Antares	E.	20 58 44	2804	19 24 21	2818	17 50 17	2832	16 16 31	2846
Jupiter	E.	32 53 21	2891	31 20 50	2912	29 48 46	2932	28 17 8	2954
Saturn	E.	46 10 1	2849	44 36 37	2866	43 3 34	2882	41 30 52	2898
α Aquilæ	E.	77 55 47	3503	76 35 26	3526	75 15 31	3551	73 56 3	3576
Sun	E.	124 36 43	3168	123 9 56	3183	121 43 26	3199	120 17 15	3213
2 Regulus	W.	91 24 23	2911	92 56 28	2923	94 28 18	2935	95 59 53	2946
Spica ♏	W.	37 24 48	2922	38 56 39	2933	40 28 16	2944	41 59 39	2954
Mars	W.	24 6 57	3125	25 34 36	3113	27 2 30	3104	28 30 35	3098
Jupiter	E.	20 46 22	3089	19 17 59	3125	17 50 20	3167	16 23 32	3220
Saturn	E.	33 52 24	2978	32 21 43	2993	30 51 21	3010	29 21 21	3026
Sun	E.	113 10 36	3283	111 46 5	3295	110 21 48	3308	108 57 46	3320
3 Spica ♏	W.	49 33 27	3002	51 3 38	3010	52 33 39	3017	54 3 31	3025
Mars	W.	35 52 7	3090	37 20 29	3091	38 48 50	3092	40 17 10	3093
Saturn	E.	21 56 51	3127	20 29 14	3152	19 2 7	3182	17 35 36	3218
Sun	E.	102 0 54	3373	100 38 7	3383	99 15 31	3392	97 53 5	3400
4 Spica ♏	W.	61 30 43	3055	62 59 48	3058	64 28 49	3064	65 57 43	3067
Mars	W.	47 38 20	3101	49 6 29	3102	50 34 36	3103	52 2 42	3104
Antares	W.	15 37 12	3050	17 6 23	3054	18 35 29	3058	20 4 30	3062
Sun	E.	91 3 4	3434	89 41 26	3439	88 19 54	3444	86 58	°
5 Spica ♏	W.	73 21 22	3078	74 49 59	3078	76 18 35	3079		
Mars	W.	59 23 7	3103	60 51 13	3101	62 19 21	310		
Antares	W.	27 28 37	3073	28 57 20	3074	30 26 1			
Sun	E.	80 12 11	3461	78 51 3	3462	77 29 56			
6 Spica ♏	W.	85 10 23	3070	86 39 9	3068	88 7			
Mars	W.	71 9 4	3083	72 37 35	3078	74 6			
Antares	W.	39 18 23	3066	40 47 14	3063	42 16			
Jupiter	W.	27 50 31	3165	29 17 22	3155	30 44			
Sun	E.	69 23 9	3455	68 1 55	3452	66 40			

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^b .	P. L. of diff.	VI ^b .	P. L. of diff.	IX ^b .
		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]		[°]
17	Mars W.	77 3 40	3064	78 32 34	3059	80 1 34	3052	81 30
	Antares W.	45 14 10	3051	46 43 19	3047	48 12 33	3042	49 41
	Jupiter W.	33 39 3	3129	35 6 38	3119	36 34 24	3111	38 2
	Saturn W.	20 30 48	3183	21 57 18	3164	23 24 10	3147	24 51
	Sun E.	63 57 49	3440	62 36 18	3436	61 14 42	3431	59 53
18	Mars W.	88 58 30	3010	90 28 31	3001	91 58 43	2993	93 29
	Antares W.	57 10 28	3004	58 40 36	2996	60 10 54	2989	61 41
	Jupiter W.	45 24 43	3057	46 53 45	3048	48 22 58	3038	49 54
	Saturn W.	32 11 38	3068	33 40 27	3057	35 9 29	3045	36 38
	Sun E.	53 2 45	3391	51 40 18	3384	50 17 43	3375	48 54
19	Mars W.	101 3 46	2937	102 35 18	2927	104 7 3	2916	105 39
	Antares W.	69 16 24	2934	70 48 0	2924	72 19 48	2914	73 51
	Jupiter W.	57 22 36	2977	58 53 18	2966	60 24 14	2955	61 55
	Saturn W.	44 8 40	2977	45 39 21	2966	47 10 17	2954	48 41
	Sun E.	41 58 43	3322	40 34 57	3312	39 10 59	3302	37 46
25	Sun W.	30 11 11	2797	31 45 43	2786	33 20 29	2778	34 55
	Aldebaran E.	34 39 3	2672	33 1 46	2668	31 24 50	2708	29 48
	Pollux E.	76 4 52	2451	74 22 30	2445	72 39 59	2438	70 57
	Regulus E.	112 59 50	2438	111 17 10	2432	109 34 21	2425	107 51
26	Sun W.	42 53 6	2729	44 29 8	2721	46 5 20	2715	47 41
	Pollux E.	62 21 48	2404	60 38 19	2399	58 54 43	2394	57 11
	Regulus E.	99 14 12	2389	97 30 21	2383	95 46 22	2378	94 2
27	Sun W.	55 45 16	2682	57 22 20	2677	58 59 31	2672	60 36
	Pollux E.	48 31 4	2373	46 46 50	2371	45 2 33	2368	43 18
	Regulus E.	85 20 1	2351	83 35 15	2346	81 50 23	2343	80 5
28	Sun W.	68 44 35	2649	70 22 23	2646	72 0 16	2643	73 38
	Venus W.	24 55 44	2553	26 35 43	2549	28 15 48	2546	29 55
	Pollux E.	34 36 1	2364	32 51 34	2365	31 7 9	2368	29 22
	Regulus E.	71 19 24	2322	69 33 57	2320	67 48 27	2317	66 2
29	Sun W.	81 48 53	2627	83 27 11	2625	85 5 32	2624	86 43
	Venus W.	38 17 59	2526	39 58 36	2523	41 39 18	2521	43 20
	Aldebaran W.	24 37 10	2713	26 13 33	2663	27 51 3	2621	29 29
	Regulus E.	57 14 7	2304	55 28 13	2302	53 42 16	2300	51 56
30	Sun W.	94 56 25	2615	96 35 0	2614	98 13 36	2613	99 52
	Venus W.	51 44 35	2507	53 25 39	2505	55 6 45	2504	56 47
	Aldebaran W.	37 51 40	2473	39 33 31	2460	41 15 41	2447	42 58
	Regulus E.	43 5 48	2293	41 19 38	2292	39 33 26	2292	37 47
	Spica π E.	97 8 50	2294	95 22 42	2294	93 36 33	2292	91 50
	Mars E.	109 6 47	2256	107 19 42	2254	105 32 35	2252	103 45
31	Sun W.	108 5 26	2613	109 44 4	2613	111 22 42	2614	113 1
	Venus W.	65 13 59	2497	66 55 16	2497	68 36 34	2496	70 17
	Aldebaran W.	51 33 46	2399	53 17 23	2394	55 1 7	2389	56 44
	Regulus E.	28 56 10	2292	27 9 59	2293	25 23 49	2294	23 37
	Spica π E.	82 59 18	2290	81 13 4	2291	79 26 51	2292	77 40
	Mars E.	94 49 0	2245	93 1 39	2245	91 14 18	2244	89 26

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
		° ' "		° ' "		° ' "		° ' "	
ars	W.	82 59 59	3039	84 29 23	3032	85 58 56	3025	87 28 38	3017
atares	W.	51 11 21	3031	52 40 55	3024	54 10 38	3018	55 40 28	3010
ipiter	W.	39 30 27	3093	40 58 45	3085	42 27 13	3076	43 55 52	3066
turn	W.	26 18 54	3119	27 46 41	3105	29 14 45	3092	30 43 4	3079
N	E.	58 31 11	3419	57 9 16	3413	55 47 14	3405	54 25 3	3399
ars	W.	94 59 38	2975	96 30 22	2966	98 1 18	2956	99 32 26	2946
atares	W.	63 11 59	2970	64 42 49	2962	66 13 49	2953	67 45 0	2943
ipiter	W.	51 22 1	3018	52 51 51	3009	54 21 53	2998	55 52 8	2988
turn	W.	38 8 16	3022	39 38 1	3011	41 8 0	3000	42 38 13	2989
N	E.	47 32 3	3353	46 8 59	3349	44 45 44	3340	43 22 19	3331
ars	W.	107 11 11	2896	108 43 35	2886	110 16 12	2876	111 49 2	2865
atares	W.	75 24 4	2893	76 56 32	2883	78 29 13	2871	80 2 9	2860
ipiter	W.	63 26 47	2933	64 58 24	2921	66 30 16	2909	68 2 23	2898
turn	W.	50 12 53	2931	51 44 33	2919	53 16 28	2906	54 48 39	2895
N	E.	36 22 29	3282	34 57 57	3273	33 33 14	3263	32 8 19	3253
N	W.	36 30 37	2759	38 5 58	2750	39 41 31	2744	41 17 13	2735
debaran	E.	28 12 24	2764	26 37 9	2802	25 2 44	2852	23 29 23	2914
illux	E.	69 14 28	2426	67 31 30	2420	65 48 24	2414	64 5 10	2409
egulus	E.	106 8 14	2412	104 24 56	2406	102 41 30	2400	100 57 55	2394
N	W.	49 18 8	2703	50 54 44	2698	52 31 27	2692	54 8 18	2686
illux	E.	55 27 12	2386	53 43 17	2383	51 59 18	2379	50 15 13	2376
egulus	E.	92 18 2	2369	90 33 42	2364	88 49 15	2359	87 4 41	2355
N	W.	62 14 11	2664	63 51 39	2660	65 29 13	2657	67 6 51	2652
illux	E.	41 33 49	2365	39 49 24	2364	38 4 57	2363	36 20 29	2363
egulus	E.	78 20 23	2336	76 35 16	2332	74 50 3	2329	73 4 46	2326
N	W.	75 16 14	2637	76 54 18	2635	78 32 26	2632	80 10 38	2629
enus	W.	31 36 13	2538	33 16 33	2535	34 56 57	2532	36 37 26	2529
illux	E.	27 38 31	2375	25 54 21	2382	24 10 20	2390	22 26 31	2402
egulus	E.	64 17 14	2312	62 31 32	2310	60 45 47	2308	58 59 59	2305
N	W.	88 22 21	2620	90 0 49	2618	91 39 19	2617	93 17 51	2615
enus	W.	45 0 51	2516	46 41 42	2513	48 22 37	2511	50 3 35	2509
debaran	W.	31 8 45	2556	32 48 41	2530	34 29 12	2509	36 10 13	2490
egulus	E.	50 10 15	2297	48 24 11	2296	46 38 5	2294	44 51 57	2293
N	W.	101 30 51	2612	103 9 29	2612	104 48 8	2612	106 26 47	2612
enus	W.	58 29 3	2502	60 10 14	2500	61 51 28	2499	63 32 43	2498
debaran	W.	44 40 52	2427	46 23 49	2418	48 6 58	2410	49 50 18	2405
egulus	E.	36 1 1	2291	34 14 48	2291	32 28 35	2291	30 42 22	2292
sica nq	E.	90 4 10	2291	88 17 58	2291	86 31 45	2290	84 45 31	2291
ars	E.	101 58 11	2249	100 10 56	2247	98 23 39	2246	96 36 20	2245
N	W.	114 39 53	2615	116 18 27	2618	117 56 58	2620	119 35 26	2621
enus	W.	71 59 12	2496	73 40 31	2497	75 21 49	2497	77 3 7	2499
debaran	W.	58 28 52	2383	60 12 51	2381	61 56 53	2379	63 40 58	2379
egulus	E.	21 51 36	2298	20 5 34	2301	18 19 36	2305	16 33 4	2305
sica nq	E.	75 54 27	2293	74 8 17	2294	72 22 8	2295	70 36	2295
ars	E.	87 39 34	2245	85 52 13	2245	84 4 53	2246	82 17	2246

CONFIGURATIONS OF THE SATELLITES OF JUPITER

At 16^h 45^m, MEAN TIME.

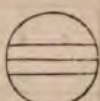
Day of the Month.	<i>West.</i>				<i>East.</i>			
1				2. 1.	3.		4.	
2	1. ●		2.	○	3.		4.	
3			3.	1. ○	4. 2.			
4		3.	4.	○	1. 2.			
5		4.	3.	2. 1.	○			
6		4.		2. ○	1.			
7	4.		1.	○	2. 3.			
8	4.			○	1.		3.	
9		4.	2.	○	3.			
10		4.	3.	1. ○	2.			
11		3.	4.	○	1. 2.			
12		3.	2. 1.	○	4.			
13	3. ●		2.	○	1.		4.	
14			1.	○	2. 3.		4.	
15				○	2. 1.	3.		
16			2.	1. ○	3.			
17	1. ○		3.	○ 2.			4.	
18		3.		○	1.	2.	4.	
19		3.	2. 1.	○		4.		
20			2. 3.	○	1.			
21		4.	1.	○	2. 3.			
22		4.		○	2. 1.	3.		
23		4.	2.	1. ○		3.		
24	4.			3. ○ 1.				
25	4.	3.		○		2.		
26	4.	3.	1.	○				
27		4.	2. 3.	○	1.			
28			1. 4.	○	2. 3.			
29				○	2. 1.	3.		
30		2.	1.	○		3.	4.	
31	2. ●			3. ○ 1.			4.	

This Table represents, at 16^h 45^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page, and the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a point is at its greatest elongation, the point is placed above or below the centre of the numeral circle (○) at the left or right hand of the page, denotes that the Satellite placed by the point is on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *shadow* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

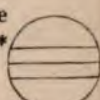
Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
	^h ^m ^s	^h ^m ^s	
2	13 21 16.0	12 3 52.2	Im.
4	7 49 35.7	6 39 10.5	Im.
6	2 18 0.4	1 14 33.9	Im.
7	20 46 18.3	19 49 50.4	Im.
9	15 14 44.0	14 25 14.7	Im.
11	9 43 4.1	9 0 33.4	Im.
13	4 11 29.4	3 35 57.4	Im.
14	22 39 47.6	22 11 14.2	Im.
16*	17 8 13.8	16 46 39.0	Im.
18	11 36 34.0	11 21 57.8	Im.
20	6 4 59.7	5 57 22.2	Im.
22	0 33 18.3	0 32 39.5	Im.
23	19 1 45.1	19 8 4.8	Im.
25	13 30 6.2	13 43 24.6	Im.
27	7 58 32.5	8 18 49.6	Im.
29	2 26 51.8	2 54 7.5	Im.
30	20 55 19.2	21 29 33.5	Im.
3	6 9 53.5	4 55 15.4	Im.
6	19 26 26.7	18 25 49.1	Im.
6	21 52 39.2	20 52 25.7	Em.
10	8 42 57.7	7 56 20.6	Im.
10	11 9 18.5	10 23 5.4	Em.
13	21 59 28.8	21 26 52.2	Im.
17	11 15 57.5	10 57 21.5	Im.
21	0 32 27.5	0 27 52.0	Im.
24	13 48 55.2	13 58 20.1	Im.
28	3 5 24.4	3 28 49.8	Im.
31*	16 21 51.6	16 59 17.5	Im.
6	10 58 38.0	9 56 37.0	Im.
6	13 18 39.4	12 17 1.4	Em.
13	14 56 9.5	14 22 23.4	Im.
13*	17 16 53.1	16 43 30.2	Em.
20	18 53 35.9	18 48 4.7	Im.
20	21 15 3.4	21 9 55.4	Em.
27	22 50 54.3	23 13 37.9	Im.
28	1 13 7.2	1 36 14.2	Em.

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APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
I.	d h m	d h m	d h m	d h m	d h m	d h m
In the Shadow.	2* 15 31	1* 16 4	1 18 17	1* 14 48	1 17	
	4 10 7	3 10 39	3 12 53	3 9 23	3 11	
	6 4 42	5 5 14	5 7 28	5 3 58	5 6	
	8 23 18	7 23 50	7 2 4	6 22 34	7 1	
	9 17 53	8 18 25	8 20 39	8 17 9	8 11	
	11 12 28	10 13 0	10* 15 14	10 11 44	10 12	
	13 7 4	12 7 35	12 9 49	12 6 19	12 8	
	15 1 39	14 2 11	14 4 25	14 0 55	14 3	
	16 20 14	15 20 46	15 23 0	15 19 30	15 21	
	18* 14 49	17* 15 21	17 17 35	17 14 5	17* 16	
	20 9 24	19 9 55	19 12 9	19 8 40	19 10	
	22 3 59	21 4 30	21 6 44	21 3 16	21 5	
	23 22 34	22 23 5	23 1 19	22 21 51	23 0	
	25* 17 9	24 17 40	24 19 54	24* 16 26	24 18	
	27 11 44	26 12 15	26 14 28	26 11 1	26 13	
Shadow.	29 6 19	28 6 49	28 9 3	28 5 36	28 7	
	31 0 53	30 1 24	30 3 38	29 0 12	30 2	
		31 19 58	31 22 12	31 18 47	31 21	
II.	In the Shadow.	3 9 56	1 12 18	1* 14 52	1 9 49	1 12
	6 20 53	7 23 27	5 1 50	5 4 24	5 23 21	5 1
	10 10 23	10 12 57	8* 15 23	8 17 57	8 12 53	8* 15
		14 2 28	12 4 54	12 7 28	12 2 24	12 4
	In	17* 15 57	15 18 26	15 21 0	15* 15 57	15 18
	the	21 5 27	19 7 56	19 10 30	19 5 28	19 8
	Shadow.	24 18 55	22 21 27	22 0 1	22 19 0	22 21
		28 8 23	26 10 56	26 13 30	26 8 32	26 11
		31 21 51	29 0 26	30 3 0	29 22 4	30 0
III.	6* 14 58	6 17 32	3 0 52	3 3 26	2 19 46	2 22
	13 19 25	13 21 58	10 5 20	10 7 53	10 0 12	10 2
	20 23 46	21 2 20	17 9 44	17 12 17	17 4 37	17 7
	28 4 3	28 6 37	24 14 4	24* 16 37	24 9 3	24 11
			31 18 19	31 20 52	31 13 29	31* 16

For correcting the Places of the Fixed Stars.				Mean Time	Mean Equinoctial Time, 09-031743 adding 0-899356	From Mean Noon of January 1.	
At Mean Midnight,				of Transit of the		Day of the Year.	Fraction of the Year.
Logarithm of				First Point of			
A	B	C	D	Aries.			
					Days.		
-1.2477	+0.8150	+9.6106	-0.8573	^h 1 ^m 23 ^s 18.28	344	59	.162
1.2502	0.7919	9.6130	0.8576	1 19 22.37	345	60	.164
1.2526	0.7674	9.6154	0.8579	1 15 26.46	346	61	.167
-1.2548	+0.7414	+9.6177	-0.8582	1 11 30.56	347	62	.170
1.2568	0.7135	9.6200	0.8585	1 7 34.65	348	63	.172
1.2587	0.6835	9.6223	0.8587	1 3 38.74	349	64	.175
-1.2605	+0.6513	+9.6246	-0.8588	0 59 42.83	350	65	.178
1.2622	0.6163	9.6269	0.8590	0 55 46.93	351	66	.181
1.2637	0.5781	9.6291	0.8590	0 51 51.02	352	67	.183
-1.2650	+0.5361	+9.6313	-0.8591	0 47 55.11	353	68	.186
1.2662	0.4895	9.6334	0.8591	0 43 59.20	354	69	.189
1.2673	0.4372	9.6356	0.8591	0 40 3.29	355	70	.192
-1.2683	+0.3776	+9.6377	-0.8590	0 36 7.39	356	71	.194
1.2691	0.3083	9.6398	0.8589	0 32 11.48	357	72	.197
1.2698	0.2258	9.6419	0.8588	0 28 15.57	358	73	.200
-1.2704	+0.1237	+9.6440	-0.8586	0 24 19.66	359	74	.203
1.2708	9.9898	9.6461	0.8584	0 20 23.76	360	75	.205
1.2711	9.7952	9.6481	0.8581	0 16 27.85	361	76	.208
-1.2713	+9.4335	+9.6502	-0.8578	0 12 31.94	362	77	.211
1.2713	-8.9101	9.6522	0.8575	0 8 36.04	363	78	.214
1.2712	9.6372	9.6543	0.8571	0 4 40.13	364	79	.216
-1.2710	-9.8953	+9.6563	-0.8567	$\left\{ \begin{smallmatrix} 0 & 0 & 44.22 \\ 23 & 52 & 48.31 \end{smallmatrix} \right\}$	365	80	.219
1.2706	0.0559	9.6583	0.8563	23 52 52.40	0	81	.222
1.2701	0.1728	9.6603	0.8558	23 48 56.50	1	82	.225
-1.2695	-0.2646	+9.6623	-0.8552	23 45 0.59	2	83	.227
1.2688	0.3402	9.6643	0.8546	23 41 4.68	3	84	.230
1.2679	0.4044	9.6663	0.8540	23 37 8.77	4	85	.233
-1.2669	-0.4602	+9.6683	-0.8534	23 33 12.86	5	86	.235
1.2658	0.5095	9.6703	0.8527	23 29 16.96	6	87	.236
1.2645	0.5536	9.6723	0.8520	23 25 21.05	7	88	.24
1.2631	0.5935	9.6743	0.8512	23 21 25.14	8	89	.24
-1.2616	-0.6299	+9.6763	-0.8504	23 17 29.23	9	90	.2

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to sub. from Apparent Time.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		
		h m s	s	° ' "	"	m s	m s
Thur.	1	0 42 39.58	9.094	N. 4 35 32.4	57.68	1 4.43	3 57.73
Frid.	2	0 46 17.84	9.099	4 58 36.8	57.46	1 4.45	3 39.49
Sat.	3	0 49 56.22	9.105	5 21 35.8	57.23	1 4.47	3 21.36
Sun.	4	0 53 34.73	9.111	5 44 29.2	56.97	1 4.49	3 3.37
Mon.	5	0 57 13.40	9.119	6 7 16.5	56.71	1 4.52	2 45.54
Tues.	6	1 0 52.26	9.127	6 29 57.6	56.43	1 4.55	2 27.89
Wed.	7	1 4 31.32	9.137	6 52 32.0	56.14	1 4.58	2 10.45
Thur.	8	1 8 10.60	9.147	7 14 59.4	55.84	1 4.61	1 53.22
Frid.	9	1 11 50.13	9.158	7 37 19.6	55.52	1 4.65	1 36.24
Sat.	10	1 15 29.93	9.170	7 59 32.2	55.20	1 4.69	1 19.53
Sun.	11	1 19 10.02	9.183	8 21 37.0	54.85	1 4.73	1 3.12
Mon.	12	1 22 50.42	9.196	8 43 33.5	54.50	1 4.77	0 47.00
Tues.	13	1 26 31.13	9.211	9 5 21.4	54.13	1 4.82	0 31.20
Wed.	14	1 30 12.19	9.225	9 27 0.4	53.74	1 4.87	0 15.75
Thur.	15	1 33 53.60	9.241	9 48 30.2	53.34	1 4.92	0 0.65
Frid.	16	1 37 35.39	9.257	10 9 50.3	52.93	1 4.97	0 14.08
Sat.	17	1 41 17.57	9.274	10 31 0.6	52.50	1 5.02	0 28.42
Sun.	18	1 45 0.14	9.291	10 52 0.5	52.05	1 5.08	0 42.36
Mon.	19	1 48 43.12	9.308	11 12 49.7	51.59	1 5.14	0 55.89
Tues.	20	1 52 26.52	9.326	11 33 27.9	51.12	1 5.20	1 9.01
Wed.	21	1 56 10.35	9.345	11 53 54.7	50.63	1 5.26	1 21.70
Thur.	22	1 59 54.63	9.363	12 14 9.8	50.13	1 5.33	1 33.95
Frid.	23	2 3 39.35	9.382	12 34 12.9	49.61	1 5.40	1 45.75
Sat.	24	2 7 24.53	9.401	12 54 3.5	49.07	1 5.47	1 57.10
Sun.	25	2 11 10.16	9.421	13 13 41.2	48.53	1 5.54	2 7.99
Mon.	26	2 14 56.27	9.441	13 33 6.0	47.97	1 5.61	2 18.40
Tues.	27	2 18 42.86	9.462	13 52 17.3	47.40	1 5.68	2 28.34
Wed.	28	2 22 29.94	9.483	14 11 14.8	46.81	1 5.75	2 37.79
Thur.	29	2 26 17.52	9.504	14 29 58.3	46.21	1 5.82	2 46.74
Frid.	30	2 30 5.61	9.525	14 48 27.4	45.60	1 5.90	2 55.19
Sat.	31	2 33 54.21		N. 15 6 41.9		1 5.98	3 3.12

* Mean Time of the Semidiameter passing may be found by subtracting 0^m18 from the Sidereal

AT MEAN NOON.

	Day of the Month.	THE SUN'S			Equation of Time, to be subt. from added to Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
ur.	1	0 42 38·98	N. 4 35 28·6	16 0·8	3 57·78	0 38 41·20
id.	2	0 46 17·28	4 58 33·3	16 0·5	3 39·54	0 42 37·75
t.	3	0 49 55·71	5 21 32·6	16 0·2	3 21·40	0 46 34·30
n.	4	0 53 34·27	5 44 26·3	16 0·0	3 3·41	0 50 30·86
on.	5	0 57 12·99	6 7 13·9	15 59·7	2 45·58	0 54 27·41
es.	6	1 0 51·89	6 29 55·3	15 59·4	2 27·92	0 58 23·96
ed.	7	1 4 30·99	6 52 29·9	15 59·1	2 10·47	1 2 20·52
ur.	8	1 8 10·31	7 14 57·6	15 58·9	1 53·24	1 6 17·07
d.	9	1 11 49·89	7 37 18·1	15 58·6	1 36·26	1 10 13·63
t.	10	1 15 29·73	7 59 31·0	15 58·3	1 19·55	1 14 10·18
n.	11	1 19 9·86	8 21 36·0	15 58·0	1 3·13	1 18 6·73
on.	12	1 22 50·30	8 43 32·8	15 57·8	0 47·01	1 22 3·29
es.	13	1 26 31·05	9 5 20·9	15 57·5	0 31·21	1 25 59·84
ed.	14	1 30 12·15	9 27 0·2	15 57·2	0 15·75	1 29 56·40
ur.	15	1 33 53·60	9 48 30·2	15 56·9	0 0·65	1 33 52·95
id.	16	1 37 35·43	10 9 50·6	15 56·7	0 14·08	1 37 49·51
t.	17	1 41 17·64	10 31 1·0	15 56·4	0 28·42	1 41 46·06
n.	18	1 45 0·25	10 52 1·1	15 56·2	0 42·36	1 45 42·61
on.	19	1 48 43·27	11 12 50·5	15 55·9	0 55·90	1 49 39·17
es.	20	1 52 26·70	11 33 28·9	15 55·6	1 9·02	1 53 35·72
ed.	21	1 56 10·56	11 53 55·9	15 55·3	1 21·72	1 57 32·28
ur.	22	1 59 54·87	12 14 11·2	15 55·1	1 33·97	2 1 28·83
id.	23	2 3 39·63	12 34 14·3	15 54·8	1 45·76	2 5 25·39
t.	24	2 7 24·83	12 54 5·1	15 54·6	1 57·11	2 9 21·94
n.	25	2 11 10·49	13 13 43·0	15 54·4	2 8·00	2 13 18·50
on.	26	2 14 56·63	13 33 7·8	15 54·1	2 18·42	2 17 15·05
es.	27	2 18 43·25	13 52 19·2	15 53·9	2 28·36	2 21 11·61
ed.	28	2 22 30·36	14 11 16·9	15 53·6	2 37·80	2 25 8·16
ur.	29	2 26 17·96	14 30 0·4	15 53·4	2 46·75	2 29 4·7 ^a
id.	30	2 30 6·07	14 48 29·6	15 53·1	2 55·20	2 33 1·1
t.	31	2 33 54·69	N. 15 6 44·2	15 52·9	3 3·14	2 36 57

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	11 35 54.2	N. 0° 16'	0.0000598	16 8.6	16 7.4	59 14.4	59 11
2	12 34 59.0	N. 0° 02'	0.0001829	16 5.8	16 3.7	59 4.2	58 5
3	13 34 1.6	S. 0° 11'	0.0003064	16 1.0	15 57.8	58 46.6	58 3
4	14 33 2.0	0° 24'	0.0004302	15 54.2	15 50.2	58 21.7	58 1
5	15 32 0.2	0° 34'	0.0005543	15 45.7	15 40.9	57 50.5	57 3
6	16 30 56.4	0° 42'	0.0006788	15 35.9	15 30.7	57 14.5	56 3
7	17 29 50.5	0° 48'	0.0008037	15 25.5	15 20.2	56 36.2	56 17
8	18 28 42.6	0° 50'	0.0009288	15 15.1	15 10.1	55 58.0	55 3
9	19 27 32.9	0° 50'	0.0010540	15 5.4	15 1.2	55 22.7	55 7
10	20 26 21.4	0° 47'	0.0011793	14 57.3	14 54.0	54 52.8	54 40
11	21 25 8.2	0° 41'	0.0013046	14 51.1	14 48.8	54 30.2	54 22
12	22 23 53.2	0° 32'	0.0014297	14 47.4	14 46.5	54 16.5	54 13
13	23 22 36.4	0° 21'	0.0015545	14 46.4	14 47.0	54 12.8	54 13
14	24 21 18.0	S. 0° 09'	0.0016788	14 48.3	14 50.2	54 19.7	54 26
15	25 19 57.9	N. 0° 04'	0.0018024	14 52.9	14 56.3	54 36.7	54 49
16	26 18 36.1	0° 16'	0.0019252	15 0.2	15 4.6	55 3.3	55 19
17	27 17 12.7	0° 29'	0.0020471	15 9.5	15 14.8	55 37.6	55 57
18	28 15 47.5	0° 40'	0.0021678	15 20.4	15 26.2	56 17.7	56 39
19	29 14 20.5	0° 48'	0.0022873	15 32.1	15 38.0	57 0.7	57 22
20	30 12 51.7	0° 55'	0.0024054	15 43.7	15 49.2	57 43.1	58 3
21	31 11 21.0	0° 58'	0.0025222	15 54.3	15 58.9	58 22.0	58 39
22	32 9 48.5	0° 59'	0.0026376	16 3.0	16 6.5	58 53.9	59 6
23	33 8 14.1	0° 57'	0.0027516	16 9.3	16 11.5	59 17.2	59 25
24	34 6 37.6	0° 51'	0.0028643	16 13.0	16 13.9	59 30.6	59 33
25	35 4 59.0	0° 42'	0.0029757	16 14.1	16 13.7	59 34.6	59 33
26	36 3 18.4	0° 32'	0.0030857	16 12.8	16 11.6	59 30.0	59 23
27	37 1 35.8	0° 20'	0.0031946	16 9.9	16 7.8	59 19.2	59 11
28	37 59 51.1	N. 0° 06'	0.0033023	16 5.6	16 3.0	59 3.3	58 53
29	38 58 4.3	S. 0° 08'	0.0034090	16 0.2	15 57.3	58 43.7	58 3
30	39 56 15.5	0° 22'	0.0035147	15 54.1	15 50.7	58 21.2	58 1
31	40 54 24.7	S. 0° 34'	0.0036196	15 47.2	15 43.6	57 56.1	57 4

MEAN TIME.

Day of the Month.	THE MOON'S															
	Longitude,						Latitude,						Age.		Meridian	
	Noon.			Midnight.			Noon.			Midnight.			Noon.	Passage.		
	°	'	"	°	'	"	°	'	"	°	'	"	d	h	m	
1	132	49	48.9	139	52	31.5	N.0	20	52.5	S.0	16	57.9	9.4	8	41.3	
2	146	54	20.1	153	54	58.3	S.0	54	25.9	1	30	55.4	10.4	9	31.6	
3	160	54	6.5	167	51	23.8	2	5	52.3	2	38	44.3	11.4	10	19.5	
4	174	46	26.6	181	38	51.3	3	9	2.2	3	36	20.5	12.4	11	6.1	
5	188	28	14.1	195	14	11.8	4	0	17.9	4	20	37.6	13.4	11	52.6	
6	201	56	22.9	208	34	30.5	4	37	7.8	4	49	41.2	14.4	12	40.0	
7	215	8	20.0	221	37	42.2	4	58	14.5	5	2	49.2	15.4	13	28.8	
8	228	2	32.6	234	22	52.8	5	3	30.1	5	0	24.7	16.4	14	19.2	
9	240	38	50.3	246	50	36.6	4	53	42.6	4	43	36.1	17.4	15	10.9	
10	252	58	29.7	259	2	51.9	4	30	18.5	4	14	3.2	18.4	16	3.1	
11	265	4	10.2	271	2	54.4	3	55	5.5	3	33	39.9	19.4	16	54.7	
12	276	59	38.8	282	54	59.1	3	10	0.7	2	44	23.0	20.4	17	44.7	
13	288	49	33.4	294	44	1.6	2	17	2.3	1	48	13.3	21.4	18	32.5	
14	300	39	4.6	306	35	23.3	1	18	11.6	S.0	47	12.8	22.4	19	18.1	
15	312	33	37.9	318	34	28.8	S.0	15	33.6	N.0	16	28.7	23.4	20	1.9	
16	324	38	34.1	330	46	29.3	N.0	48	35.2	1	20	26.7	24.4	20	44.7	
17	336	58	46.8	343	15	54.6	1	51	41.3	2	21	57.0	25.4	21	27.3	
18	349	38	15.6	356	6	7.4	2	50	49.2	3	17	52.6	26.4	22	10.9	
19	2	39	39.3	9	18	54.4	3	42	41.2	4	4	48.3	27.4	22	56.7	
20	16	3	46.1	22	54	1.3	4	23	48.0	4	39	15.1	28.4	23	45.8	
21	29	49	17.6	36	49	5.4	4	50	48.0	4	58	7.2	29.4		6	
22	43	52	48.8	50	59	47.6	5	0	57.5	4	59	9.4	0.9	0	39.3	
23	58	9	16.9	65	20	32.1	4	52	40.6	4	41	31.5	1.9	1	37.3	
24	72	32	47.2	79	45	20.8	4	25	52.5	4	5	57.4	2.9	2	39.1	
25	86	57	33.8	94	8	52.7	3	42	7.2	3	14	47.1	3.9	3	42.4	
26	101	18	49.5	108	27	3.6	2	44	25.3	2	11	34.6	4.9	4	44.6	
27	115	33	18.2	122	37	22.4	1	36	49.1	N.1	0	43.3	5.9	5	43.3	
28	129	39	10.2	136	38	37.6	N.0	23	53.2	S.0	13	6.6	6.9			
29	143	35	43.6	150	30	28.3	S.0	49	41.2	1	25	18.8	7.9			
30	157	22	51.7	164	12	54.2	1	59	27.7	2	31	40.1	8			
31	171	0	33.4	177	45	47.1	S.3	1	29.5	S.3	28	32.9				

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
THURSDAY 1.				SATURDAY 3.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	9 1 36.83	N.17 18 37.7	130.65	0	10 46 19.08	N.5 32 36.2
1	9 3 54.57	17 5 33.8	131.62	1	10 48 24.30	5 16 48.2
2	9 6 11.96	16 52 24.1	132.53	2	10 50 29.35	5 0 59.2
3	9 8 29.03	16 39 8.9	133.47	3	10 52 34.25	4 45 9.0
4	9 10 45.75	16 25 48.1	134.35	4	10 54 39.00	4 29 18.0
5	9 13 2.14	16 12 22.0	135.23	5	10 56 43.60	4 13 26.0
6	9 15 18.21	15 58 50.6	136.10	6	10 58 48.06	3 57 33.3
7	9 17 33.94	15 45 14.0	136.97	7	11 0 52.38	3 41 39.8
8	9 19 49.35	15 31 32.2	137.78	8	11 2 56.57	3 25 45.8
9	9 22 4.44	15 17 45.5	138.60	9	11 5 0.63	3 9 51.3
10	9 24 19.21	15 3 53.9	139.42	10	11 7 4.56	2 53 56.3
11	9 26 33.67	14 49 57.4	140.18	11	11 9 8.37	2 38 1.0
12	9 28 47.81	14 35 56.3	140.95	12	11 11 12.07	2 22 5.4
13	9 31 1.64	14 21 50.6	141.72	13	11 13 15.66	2 6 9.7
14	9 33 15.17	14 7 40.3	142.43	14	11 15 19.14	1 50 13.8
15	9 35 28.39	13 53 25.7	143.17	15	11 17 22.52	1 34 18.0
16	9 37 41.31	13 39 6.7	143.87	16	11 19 25.80	1 18 22.2
17	9 39 53.93	13 24 43.5	144.55	17	11 21 28.99	1 2 26.6
18	9 42 6.26	13 10 16.2	145.22	18	11 23 32.08	0 46 31.3
19	9 44 18.30	12 55 44.9	145.87	19	11 25 35.10	0 30 36.3
20	9 46 30.06	12 41 9.7	146.52	20	11 27 38.03	N.0 14 41.7
21	9 48 41.53	12 26 30.6	147.13	21	11 29 40.89	S.0 1 12.3
22	9 50 52.73	12 11 47.8	147.73	22	11 31 43.68	0 17 5.8
23	9 53 3.64	N.11 57 1.4	148.33	23	11 33 46.40	S.0 32 58.6
FRIDAY 2.				SUNDAY 4.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	9 55 14.29	N.11 42 11.4	148.90	0	11 35 49.06	S.0 48 50.7
1	9 57 24.67	11 27 18.0	149.47	1	11 37 51.66	1 4 41.9
2	9 59 34.79	11 12 21.2	150.00	2	11 39 54.21	1 20 32.2
3	10 1 44.65	10 57 21.2	150.52	3	11 41 56.71	1 36 21.6
4	10 3 54.25	10 42 18.1	151.03	4	11 43 59.16	1 52 9.8
5	10 6 3.60	10 27 11.9	151.53	5	11 46 1.58	2 7 56.9
6	10 8 12.71	10 12 2.7	152.02	6	11 48 3.95	2 23 42.7
7	10 10 21.57	9 56 50.6	152.47	7	11 50 6.30	2 39 27.2
8	10 12 30.19	9 41 35.8	152.93	8	11 52 8.62	2 55 10.4
9	10 14 38.57	9 26 18.2	153.35	9	11 54 10.91	3 10 52.0
10	10 16 46.73	9 10 58.1	153.77	10	11 56 13.19	3 26 32.1
11	10 18 54.65	8 55 35.5	154.17	11	11 58 15.44	3 42 10.6
12	10 21 2.36	8 40 10.5	154.55	12	12 0 17.69	3 57 47.3
13	10 23 9.85	8 24 43.2	154.93	13	12 2 19.93	4 13 22.3
14	10 25 17.12	8 9 13.6	155.27	14	12 4 22.17	4 28 55.3
15	10 27 24.19	7 53 42.0	155.63	15	12 6 24.41	4 44 26.5
16	10 29 31.05	7 38 8.2	155.93	16	12 8 26.65	4 59 55.6
17	10 31 37.71	7 22 32.6	156.25	17	12 10 28.91	5 15 22.6
18	10 33 44.17	7 6 55.1	156.55	18	12 12 31.17	5 30 47.4
19	10 35 50.44	6 51 15.8	156.82	19	12 14 33.45	5 46 9.9
20	10 37 56.53	6 35 34.9	157.08	20	12 16 35.75	6 1 30.1
21	10 40 2.43	6 19 52.4	157.35	21	12 18 38.08	6 16 47.9
22	10 42 8.15	6 4 8.3	157.57	22	12 20 40.43	6 32 3.3
23	10 44 13.70	5 48 22.9	157.78	23	12 22 42.81	6 47 16.0
24	10 46 19.08	N. 5 32 36.2		24	12 24 45.23	S.7 2 26.1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
MONDAY 5.				WEDNESDAY 7.		
45° 23' S.	7° 2' 26" 1	151° 23'	0	14° 4' 24" 55	S. 17° 55' 30" 5	115° 90'
47° 69'	7° 17' 33" 5	150° 77'	1	14° 6' 32" 27	18° 7' 5" 9	114° 90'
50° 19'	7° 32' 38" 1	150° 28'	2	14° 8' 40" 15	18° 18' 35" 3	113° 90'
52° 74'	7° 47' 39" 8	149° 80'	3	14° 10' 48" 19	18° 29' 58" 7	112° 88'
55° 33'	8° 2' 38" 6	149° 28'	4	14° 12' 56" 38	18° 41' 16" 0	111° 87'
57° 99'	8° 17' 34" 3	148° 78'	5	14° 15' 4" 73	18° 52' 27" 2	110° 83'
0° 69'	8° 32' 27" 0	148° 25'	6	14° 17' 13" 24	19° 3' 32" 2	109° 78'
3° 46'	8° 47' 16" 5	147° 72'	7	14° 19' 21" 91	19° 14' 30" 9	108° 75'
6° 29'	9° 2' 2" 8	147° 17'	8	14° 21' 30" 74	19° 25' 23" 4	107° 68'
9° 19'	9° 16' 45" 8	146° 60'	9	14° 23' 39" 73	19° 36' 9" 5	106° 62'
12° 16'	9° 31' 25" 4	146° 03'	10	14° 25' 48" 87	19° 46' 49" 2	105° 55'
15° 20'	9° 46' 1" 6	145° 43'	11	14° 27' 58" 18	19° 57' 22" 5	104° 47'
18° 32'	10° 0' 34" 2	144° 83'	12	14° 30' 7" 65	20° 7' 49" 3	103° 37'
21° 52'	10° 15' 3" 2	144° 23'	13	14° 32' 17" 28	20° 18' 9" 5	102° 27'
24° 79'	10° 29' 28" 6	143° 62'	14	14° 34' 27" 06	20° 28' 23" 1	101° 17'
28° 16'	10° 43' 50" 3	142° 97'	15	14° 36' 37" 00	20° 38' 30" 1	100° 05'
31° 62'	10° 58' 8" 1	142° 33'	16	14° 38' 47" 11	20° 48' 30" 4	98° 92'
35° 16'	11° 12' 22" 1	141° 68'	17	14° 40' 57" 37	20° 58' 23" 9	97° 78'
38° 81'	11° 26' 32" 2	141° 00'	18	14° 43' 7" 79	21° 8' 10" 6	96° 65'
42° 55'	11° 40' 38" 2	140° 32'	19	14° 45' 18" 36	21° 17' 50" 5	95° 48'
46° 39'	11° 54' 40" 1	139° 63'	20	14° 47' 29" 10	21° 27' 23" 4	94° 35'
50° 34'	12° 8' 37" 9	138° 93'	21	14° 49' 39" 99	21° 36' 49" 5	93° 18'
54° 39'	12° 22' 31" 5	138° 22'	22	14° 51' 51" 03	21° 46' 8" 6	92° 00'
58° 56' S.	12° 36' 20" 8	137° 50'	23	14° 54' 2" 23	S. 21° 55' 20" 6	90° 83'
TUESDAY 6.				THURSDAY 8.		
2° 83' S.	12° 50' 5" 8	136° 75'	0	14° 56' 13" 58	S. 22° 4' 25" 6	89° 65'
7° 22'	13° 3' 46" 3	136° 02'	1	14° 58' 25" 08	22° 13' 23" 5	88° 45'
11° 72'	13° 17' 22" 4	135° 25'	2	15° 0' 36" 73	22° 22' 14" 2	87° 25'
16° 34'	13° 30' 53" 9	134° 48'	3	15° 2' 48" 53	22° 30' 57" 7	86° 05'
21° 09'	13° 44' 20" 8	133° 70'	4	15° 5' 0" 48	22° 39' 34" 0	84° 83'
25° 96'	13° 57' 43" 0	132° 92'	5	15° 7' 12" 58	22° 48' 3" 0	83° 62'
30° 95'	14° 11' 0" 5	132° 10'	6	15° 9' 24" 82	22° 56' 24" 7	82° 40'
36° 08'	14° 24' 13" 1	131° 30'	7	15° 11' 37" 20	23° 4' 39" 1	81° 15'
41° 33'	14° 37' 20" 9	130° 47'	8	15° 13' 49" 73	23° 12' 46" 0	79° 92'
46° 71'	14° 50' 23" 7	129° 63'	9	15° 16' 2" 39	23° 20' 45" 5	78° 68'
52° 24'	15° 3' 21" 5	128° 80'	10	15° 18' 15" 20	23° 28' 37" 6	77° 42'
57° 89'	15° 16' 14" 3	127° 93'	11	15° 20' 28" 14	23° 36' 22" 1	76° 17'
3° 69'	15° 29' 1" 9	127° 07'	12	15° 22' 41" 21	23° 43' 59" 1	74° 90'
9° 62'	15° 41' 44" 3	126° 20'	13	15° 24' 54" 42	23° 51' 28" 5	73° 63'
15° 70'	15° 54' 21" 5	125° 30'	14	15° 27' 7" 75	23° 58' 50" 3	72° 37'
21° 92'	16° 6' 53" 3	124° 40'	15	15° 29' 21" 22	24° 6' 4" 5	71° 08'
28° 28'	16° 19' 19" 7	123° 52'	16	15° 31' 34" 80	24° 13' 11" 0	69° 80'
34° 79'	16° 31' 40" 8	122° 58'	17	15° 33' 48" 51	24° 20' 9" 8	68° 52'
41° 45'	16° 43' 56" 3	121° 65'	18	15° 36' 2" 35	24° 27' 0" 9	67° 22'
48° 25'	16° 56' 6" 2	120° 72'	19	15° 38' 16" 29	24° 33' 44" 2	65
55° 21'	17° 8' 10" 5	119° 78'	20	15° 40' 30" 35	24° 40' 19" 7	
2° 31'	17° 20' 9" 2	118° 82'	21	15° 42' 44" 53	24° 46' 47" 1	
9° 57'	17° 32' 2" 1	117° 85'	22	15° 44' 58" 81	24° 53' "	
16° 98'	17° 43' 49" 2	116° 88'	23	15° 47' 13" 19	24° 59' "	
24° 55' S.	17° 55' 30" 5		24	15° 49' 27" 68	S. 25° 5' "	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
<i>FRIDAY 9.</i>				<i>SUNDAY 11.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	15 49 27.68	S. 25 5 23.2	59.35	0	17 37 51.22	S. 27 17 7
1	15 51 42.27	25 11 19.3	58.03	1	17 40 6.05	27 16 31
2	15 53 56.95	25 17 7.5	56.72	2	17 42 20.78	27 15 47
3	15 56 11.73	25 22 47.8	55.37	3	17 44 35.41	27 14 54
4	15 58 26.59	25 28 20.0	54.03	4	17 46 49.93	27 13 54
5	16 0 41.54	25 33 44.2	52.70	5	17 49 4.35	27 12 46
6	16 2 56.57	25 39 0.4	51.35	6	17 51 18.65	27 11 30
7	16 5 11.68	25 44 8.5	50.02	7	17 53 32.84	27 10 6
8	16 7 26.87	25 49 8.6	48.67	8	17 55 46.91	27 8 34
9	16 9 42.13	25 54 0.6	47.30	9	17 58 0.85	27 6 54
10	16 11 57.46	25 58 44.4	45.97	10	18 0 14.67	27 5 6
11	16 14 12.86	26 3 20.2	44.60	11	18 2 28.36	27 3 11
12	16 16 28.31	26 7 47.8	43.25	12	18 4 41.91	27 1 7
13	16 18 43.83	26 12 7.3	41.88	13	18 6 55.33	26 58 56
14	16 20 59.39	26 16 18.6	40.52	14	18 9 8.61	26 56 36
15	16 23 15.01	26 20 21.7	39.15	15	18 11 21.74	26 54 9
16	16 25 30.67	26 24 16.6	37.78	16	18 13 34.72	26 51 35
17	16 27 46.38	26 28 3.3	36.42	17	18 15 47.56	26 48 52
18	16 30 2.12	26 31 41.8	35.05	18	18 18 0.24	26 46 2
19	16 32 17.90	26 35 12.1	33.68	19	18 20 12.76	26 43 4
20	16 34 33.70	26 38 34.2	32.30	20	18 22 25.13	26 39 59
21	16 36 49.53	26 41 48.0	30.93	21	18 24 37.33	26 36 46
22	16 39 5.39	26 44 53.6	29.55	22	18 26 49.37	26 33 25
23	16 41 21.26	S. 26 47 50.9	28.18	23	18 29 1.24	S. 26 29 57
<i>SATURDAY 10.</i>				<i>MONDAY 12.</i>		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	16 43 37.14	S. 26 50 40.0	26.80	0	18 31 12.94	S. 26 26 21
1	16 45 53.03	26 53 20.8	25.43	1	18 33 24.46	26 22 38
2	16 48 8.93	26 55 53.4	24.05	2	18 35 35.81	26 18 47
3	16 50 24.83	26 58 17.7	22.67	3	18 37 46.98	26 14 49
4	16 52 40.72	27 0 33.7	21.30	4	18 39 57.97	26 10 44
5	16 54 56.61	27 2 41.5	19.92	5	18 42 8.77	26 6 31
6	16 57 12.48	27 4 41.0	18.55	6	18 44 19.39	26 2 11
7	16 59 28.34	27 6 32.3	17.17	7	18 46 29.82	25 57 43
8	17 1 44.17	27 8 15.3	15.78	8	18 48 40.06	25 53 9
9	17 3 59.98	27 9 50.0	14.43	9	18 50 50.10	25 48 27
10	17 6 15.76	27 11 16.6	13.03	10	18 52 59.95	25 43 38
11	17 8 31.51	27 12 34.8	11.68	11	18 55 9.61	25 38 42
12	17 10 47.22	27 13 44.9	10.30	12	18 57 19.07	25 33 38
13	17 13 2.89	27 14 46.7	8.95	13	18 59 28.33	25 28 28
14	17 15 18.51	27 15 40.4	7.57	14	19 1 37.39	25 23 11
15	17 17 34.08	27 16 25.8	6.20	15	19 3 46.24	25 17 46
16	17 19 49.59	27 17 3.0	4.83	16	19 5 54.90	25 12 15
17	17 22 5.05	27 17 32.0	3.48	17	19 8 3.34	25 6 37
18	17 24 20.44	27 17 52.9	2.12	18	19 10 11.58	25 0 52
19	17 26 35.76	27 18 5.6	0.77	19	19 12 19.61	24 55 0
20	17 28 51.02	27 18 10.2	0.60	20	19 14 27.43	24 49 1
21	17 31 6.19	27 18 6.6	1.95	21	19 16 35.05	24 42 55
22	17 33 21.29	27 17 54.9	3.32	22	19 18 42.45	24 36 43
23	17 35 36.30	27 17 35.0	4.65	23	19 20 49.64	24 30 24
24	17 37 51.22	S. 27 17 7.1		24	19 22 56.61	S. 24 23 58

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 13.				THURSDAY 15.		
m s o i "		"		h m s o i "		"
22 56 '61	S. 24 23 58 '6	65 '38	0	21 0 25 '49	S. 17 18 6 '2	110 '37
25 3 '37	24 17 26 '3	66 '48	1	21 2 22 '66	17 7 4 '0	111 '15
27 9 '92	24 10 47 '4	67 '57	2	21 4 19 '68	16 55 57 '1	111 '90
29 16 '26	24 4 2 '0	68 '67	3	21 6 16 '53	16 44 45 '7	112 '65
31 22 '38	23 57 10 '0	69 '73	4	21 8 13 '24	16 33 29 '8	113 '40
33 28 '28	23 50 11 '6	70 '80	5	21 10 9 '79	16 22 9 '4	114 '15
35 33 '97	23 43 6 '8	71 '87	6	21 12 6 '19	16 10 44 '5	114 '88
37 39 '45	23 35 55 '6	72 '92	7	21 14 2 '45	15 59 15 '2	115 '60
39 44 '70	23 28 38 '1	73 '98	8	21 15 58 '56	15 47 41 '6	116 '33
41 49 '75	23 21 14 '2	75 '02	9	21 17 54 '54	15 36 3 '6	117 '03
43 54 '57	23 13 44 '1	76 '05	10	21 19 50 '37	15 24 21 '4	117 '75
45 59 '18	23 6 7 '8	77 '08	11	21 21 46 '07	15 12 34 '9	118 '45
48 3 '58	22 58 25 '3	78 '10	12	21 23 41 '64	15 0 44 '2	119 '13
50 7 '76	22 50 36 '7	79 '13	13	21 25 37 '08	14 48 49 '4	119 '83
52 11 '73	22 42 41 '9	80 '13	14	21 27 32 '40	14 36 50 '4	120 '50
54 15 '48	22 34 41 '1	81 '13	15	21 29 27 '59	14 24 47 '4	121 '17
56 19 '01	22 26 34 '3	82 '12	16	21 31 22 '66	14 12 40 '4	121 '83
58 22 '33	22 18 21 '6	83 '13	17	21 33 17 '62	14 0 29 '4	122 '50
0 25 '44	22 10 2 '8	84 '10	18	21 35 12 '47	13 48 14 '4	123 '15
2 28 '34	22 1 38 '2	85 '07	19	21 37 7 '20	13 35 55 '5	123 '80
4 31 '03	21 53 7 '8	86 '05	20	21 39 1 '83	13 23 32 '7	124 '42
6 33 '50	21 44 31 '5	87 '02	21	21 40 56 '36	13 11 6 '2	125 '07
8 35 '76	21 35 49 '4	87 '95	22	21 42 50 '78	12 58 35 '8	125 '68
10 37 '82	S. 21 27 1 '7	88 '92	23	21 44 45 '11	S. 12 46 1 '7	126 '30
WEDNESDAY 14.				FRIDAY 16.		
m s o i "		"		h m s o i "		"
12 39 '67	S. 21 18 8 '2	89 '85	0	21 46 39 '35	S. 12 33 23 '9	126 '92
14 41 '31	21 9 9 '1	90 '78	1	21 48 33 '49	12 20 42 '4	127 '50
16 42 '75	21 0 4 '4	91 '72	2	21 50 27 '55	12 7 57 '4	128 '12
18 43 '98	20 50 54 '1	92 '63	3	21 52 21 '53	11 55 8 '7	128 '70
20 45 '01	20 41 38 '3	93 '55	4	21 54 15 '43	11 42 16 '5	129 '27
22 45 '84	20 32 17 '0	94 '47	5	21 56 9 '25	11 29 20 '9	129 '85
24 46 '47	20 22 50 '2	95 '35	6	21 58 3 '00	11 16 21 '8	130 '42
26 46 '90	20 13 18 '1	96 '25	7	21 59 56 '68	11 3 19 '3	130 '98
28 47 '13	20 3 40 '6	97 '13	8	22 1 50 '29	10 50 13 '4	131 '52
30 47 '16	19 53 57 '8	98 '02	9	22 3 43 '84	10 37 4 '3	132 '07
32 47 '00	19 44 9 '7	98 '88	10	22 5 37 '34	10 23 51 '9	132 '62
34 46 '65	19 34 16 '4	99 '75	11	22 7 30 '79	10 10 36 '2	133 '13
36 46 '11	19 24 17 '9	100 '60	12	22 9 24 '18	9 57 17 '4	133 '65
38 45 '38	19 14 14 '3	101 '47	13	22 11 17 '52	9 43 55 '5	134 '18
40 44 '46	19 4 5 '5	102 '30	14	22 13 10 '83	9 30 30 '4	134 '67
42 43 '36	18 53 51 '7	103 '13	15	22 15 4 '09	9 17 2 '4	135 '18
44 42 '08	18 43 32 '9	103 '98	16	22 16 57 '32	9 3 31 '3	135 '67
46 40 '61	18 33 9 '0	104 '78	17	22 18 50 '52	8 49 57 '3	136 '15
48 38 '97	18 22 40 '3	105 '62	18	22 20 43 '69	8 36 20 '4	136 '63
50 37 '15	18 12 6 '6	106 '42	19	22 22 36 '84	8 22 40 '6	137 '10
52 35 '16	18 1 28 '1	107 '23	20	22 24 29 '97	8 8 58 '0	137 '57
54 32 '99	17 50 44 '7	108 '02	21	22 26 23 '09	7 55 12 '6	138
56 30 '66	17 39 56 '6	108 '80	22	22 28 16 '19	7 41 24 '5	138
58 28 '16	17 29 3 '8	109 '60	23	22 30 9 '29	7 27 33 '7	13
0 25 '49	S. 17 18 6 '2		24	22 32 2 '38	S. 7 13 40 '3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
SATURDAY 17.				MONDAY 19.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	22 32 2.38	S. 7 13 40.3	139.33	0	0 3 50.70	N. 4 27 48
1	22 33 55.47	6 59 44.3	139.77	1	0 5 48.95	4 42 45
2	22 35 48.57	6 45 45.7	140.17	2	0 7 47.41	4 57 42
3	22 37 41.68	6 31 44.7	140.58	3	0 9 46.10	5 12 38
4	22 39 34.79	6 17 41.2	140.98	4	0 11 45.02	5 27 34
5	22 41 27.93	6 3 35.3	141.37	5	0 13 44.17	5 42 29
6	22 43 21.09	5 49 27.1	141.77	6	0 15 43.56	5 57 24
7	22 45 14.27	5 35 16.5	142.12	7	0 17 43.19	6 12 18
8	22 47 7.48	5 21 3.8	142.50	8	0 19 43.07	6 27 11
9	22 49 0.73	5 6 48.8	142.85	9	0 21 43.19	6 42 4
10	22 50 54.01	4 52 31.7	143.20	10	0 23 43.58	6 56 56
11	22 52 47.34	4 38 12.5	143.55	11	0 25 44.22	7 11 47
12	22 54 40.72	4 23 51.2	143.87	12	0 27 45.13	7 26 36
13	22 56 34.15	4 9 28.0	144.20	13	0 29 46.30	7 41 25
14	22 58 27.63	3 55 2.8	144.52	14	0 31 47.75	7 56 13
15	23 0 21.17	3 40 35.7	144.82	15	0 33 49.48	8 10 59
16	23 2 14.77	3 26 6.8	145.12	16	0 35 51.50	8 25 44
17	23 4 8.44	3 11 36.1	145.40	17	0 37 53.79	8 40 27
18	23 6 2.19	2 57 3.7	145.68	18	0 39 56.39	8 55 9
19	23 7 56.01	2 42 29.6	145.95	19	0 41 59.27	9 9 49
20	23 9 49.91	2 27 53.9	146.22	20	0 44 2.46	9 24 28
21	23 11 43.90	2 13 16.6	146.47	21	0 46 5.96	9 39 5
22	23 13 37.98	1 58 37.8	146.70	22	0 48 9.76	9 53 40
23	23 15 32.16	S. 1 43 57.6	146.95	23	0 50 13.88	N. 10 8 13
SUNDAY 18.				TUESDAY 20.		
0	23 17 26.43	S. 1 29 15.9	147.17	0	0 52 18.32	N. 10 22 44
1	23 19 20.81	1 14 32.9	147.38	1	0 54 23.08	10 37 13
2	23 21 15.30	0 59 48.6	147.60	2	0 56 28.17	10 51 40
3	23 23 9.90	0 45 3.0	147.78	3	0 58 33.59	11 6 4
4	23 25 4.62	0 30 16.3	147.97	4	1 0 39.34	11 20 26
5	23 26 59.46	0 15 28.5	148.15	5	1 2 45.44	11 34 46
6	23 28 54.43	S. 0 0 39.6	148.30	6	1 4 51.88	11 49 3
7	23 30 49.53	N. 0 14 10.2	148.47	7	1 6 58.66	12 3 17
8	23 32 44.76	0 29 1.0	148.62	8	1 9 5.80	12 17 29
9	23 34 40.14	0 43 52.7	148.75	9	1 11 13.29	12 31 37
10	23 36 35.66	0 58 45.2	148.87	10	1 13 21.14	12 45 43
11	23 38 31.33	1 13 38.4	148.98	11	1 15 29.36	12 59 46
12	23 40 27.15	1 28 32.3	149.08	12	1 17 37.94	13 13 45
13	23 42 23.13	1 43 26.8	149.18	13	1 19 46.89	13 27 42
14	23 44 19.27	1 58 21.9	149.27	14	1 21 56.21	13 41 35
15	23 46 15.58	2 13 17.5	149.33	15	1 24 5.92	13 55 24
16	23 48 12.06	2 28 13.5	149.38	16	1 26 16.00	14 9 10
17	23 50 8.72	2 43 9.8	149.45	17	1 28 26.47	14 22 52
18	23 52 5.56	2 58 6.5	149.48	18	1 30 37.33	14 36 31
19	23 54 2.59	3 13 3.4	149.50	19	1 32 48.58	14 50 6
20	23 55 59.81	3 28 0.4	149.53	20	1 35 0.22	15 3 36
21	23 57 57.23	3 42 57.6	149.52	21	1 37 12.26	15 17 3
22	23 59 54.85	3 57 54.7	149.52	22	1 39 24.70	15 30 26
23	0 1 52.67	4 12 51.8	149.50	23	1 41 37.54	15 43 44
24	0 3 50.70	N. 4 27 48.8		24	1 43 50.79	N. 15 56 58

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>WEDNESDAY 21.</i>				<i>FRIDAY 23.</i>		
<i>h m s</i>	<i>N. ° ' "</i>	<i>"</i>		<i>h m s</i>	<i>N. ° ' "</i>	<i>"</i>
1 43 50.79	N. 15 56 58.3	131.58	0	3 38 48.63	N. 24 31 6.6	74.57
1 46 4.45	16 10 7.8	130.82	1	3 41 22.47	24 38 34.0	72.95
1 48 18.52	16 23 12.7	130.03	2	3 43 56.66	24 45 51.7	71.33
1 50 33.00	16 36 12.9	129.23	3	3 46 31.22	24 52 59.7	69.68
1 52 47.90	16 49 8.3	128.42	4	3 49 6.11	24 59 57.8	68.03
1 55 3.22	17 1 58.8	127.58	5	3 51 41.35	25 6 46.0	66.35
1 57 18.96	17 14 44.3	126.73	6	3 54 16.93	25 13 24.1	64.68
1 59 35.12	17 27 24.7	125.87	7	3 56 52.83	25 19 52.2	62.98
2 1 51.71	17 39 59.9	124.98	8	3 59 29.05	25 26 10.1	61.27
2 4 8.73	17 52 29.8	124.07	9	4 2 5.59	25 32 17.7	59.55
2 6 26.17	18 4 54.2	123.13	10	4 4 42.43	25 38 15.0	57.80
2 8 44.04	18 17 13.0	122.20	11	4 7 19.58	25 44 1.8	56.07
2 11 2.35	18 29 26.2	121.23	12	4 9 57.01	25 49 38.2	54.30
2 13 21.09	18 41 33.6	120.27	13	4 12 34.73	25 55 4.0	52.55
2 15 40.26	18 53 35.2	119.25	14	4 15 12.72	26 0 19.3	50.75
2 17 59.87	19 5 30.7	118.23	15	4 17 50.98	26 5 23.8	48.95
2 20 19.92	19 17 20.1	117.20	16	4 20 29.51	26 10 17.5	47.15
2 22 40.41	19 29 3.3	116.15	17	4 23 8.28	26 15 0.4	45.35
2 25 1.33	19 40 40.2	115.08	18	4 25 47.29	26 19 32.5	43.52
2 27 22.69	19 52 10.7	113.98	19	4 28 26.54	26 23 53.6	41.67
2 29 44.49	20 3 34.6	112.88	20	4 31 6.01	26 28 3.6	39.83
2 32 6.73	20 14 51.9	111.75	21	4 33 45.69	26 32 2.6	37.98
2 34 29.41	20 26 2.4	110.60	22	4 36 25.58	26 35 50.5	36.13
2 36 52.53	N. 20 37 6.0	109.43	23	4 39 5.67	N. 26 39 27.3	34.25
<i>THURSDAY 22.</i>				<i>SATURDAY 24.</i>		
2 39 16.08	N. 20 48 2.6	108.25	0	4 41 45.94	N. 26 42 52.8	32.37
2 41 40.07	20 58 52.1	107.07	1	4 44 26.39	26 46 7.0	30.50
2 44 4.51	21 9 34.5	105.83	2	4 47 7.01	26 49 10.0	28.58
2 46 29.38	21 20 9.5	104.60	3	4 49 47.79	26 52 1.5	26.70
2 48 54.68	21 30 37.1	103.33	4	4 52 28.71	26 54 41.7	24.80
2 51 20.42	21 40 57.1	102.07	5	4 55 9.77	26 57 10.5	22.88
2 53 46.59	21 51 9.5	100.78	6	4 57 50.95	26 59 27.8	20.98
2 56 13.19	22 1 14.2	99.47	7	5 0 32.25	27 1 33.7	19.05
2 58 40.22	22 11 11.0	98.13	8	5 3 13.66	27 3 28.0	17.13
3 1 7.67	22 20 59.8	96.80	9	5 5 55.15	27 5 10.8	15.22
3 3 35.55	22 30 40.6	95.43	10	5 8 36.74	27 6 42.1	13.27
3 6 3.85	22 40 13.2	94.07	11	5 11 18.39	27 8 1.7	11.35
3 8 32.57	22 49 37.6	92.67	12	5 14 0.11	27 9 9.8	9.42
3 11 1.71	22 58 53.6	91.25	13	5 16 41.88	27 10 6.3	
3 13 31.25	23 8 1.1	89.82	14	5 19 23.68	27 10 51.1	
3 16 1.21	23 17 0.0	88.37	15	5 22 5.52	27 11	
3 18 31.57	23 25 50.2	86.90	16	5 24 47.38	27	
3 21 2.34	23 34 31.6	85.42	17	5 27 29.24	27	
3 23 33.51	23 43 4.1	83.92	18	5 30 11.10		
3 26 5.07	23 51 27.6	82.40	19	5 32 52.96		
3 28 37.02	23 59 42.0	80.87	20	5 35 34.79		
3 31 9.36	24 7 47.2	79.32	21	5 38 16.58		
3 33 42.07	24 15 43.1	77.75	22	5 40 58.33		
3 36 15.17	24 23 29.6	76.17	23	5 43 40.03		
3 38 48.63	N. 24 31 6.6		24	5 46 21.66		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
SUNDAY 25.				TUESDAY 27.		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	5 46 21.66	N.27 7 40.1	13.82	0	7 51 24.59	N.22 38 10
1	5 49 3.21	27 6 17.2	15.75	1	7 53 52.82	22 28 36
2	5 51 44.67	27 4 42.7	17.67	2	7 56 20.64	22 18 53
3	5 54 26.03	27 2 56.7	19.58	3	7 58 48.06	22 9 3
4	5 57 7.29	27 0 59.2	21.48	4	8 1 15.08	21 59 4
5	5 59 48.42	26 58 50.3	23.40	5	8 3 41.70	21 48 58
6	6 2 29.43	26 56 29.9	25.30	6	8 6 7.91	21 38 44
7	6 5 10.30	26 53 58.1	27.20	7	8 8 33.72	21 28 22
8	6 7 51.02	26 51 14.9	29.08	8	8 10 59.12	21 17 52
9	6 10 31.58	26 48 20.4	30.97	9	8 13 24.12	21 7 15
10	6 13 11.97	26 45 14.6	32.83	10	8 15 48.70	20 56 30
11	6 15 52.19	26 41 57.6	34.72	11	8 18 12.89	20 45 38
12	6 18 32.22	26 38 29.3	36.58	12	8 20 36.66	20 34 39
13	6 21 12.05	26 34 49.8	38.42	13	8 23 0.03	20 23 33
14	6 23 51.67	26 30 59.3	40.28	14	8 25 22.99	20 12 20
15	6 26 31.08	26 26 57.6	42.10	15	8 27 45.55	20 0 59
16	6 29 10.27	26 22 45.0	43.93	16	8 30 7.70	19 49 32
17	6 31 49.22	26 18 21.4	45.73	17	8 32 29.45	19 37 59
18	6 34 27.94	26 13 47.0	47.55	18	8 34 50.80	19 26 18
19	6 37 6.41	26 9 1.7	49.35	19	8 37 11.75	19 14 31
20	6 39 44.62	26 4 5.6	51.12	20	8 39 32.29	19 2 38
21	6 42 22.57	25 58 58.9	52.90	21	8 41 52.44	18 50 39
22	6 45 0.24	25 53 41.5	54.67	22	8 44 12.19	18 38 33
23	6 47 37.65	N.25 48 13.5	56.42	23	8 46 31.55	N.18 26 21
MONDAY 26.				WEDNESDAY 28.		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	6 50 14.76	N.25 42 35.0	58.15	0	8 48 50.51	N.18 14 3
1	6 52 51.58	25 36 46.1	59.88	1	8 51 9.08	18 1 39
2	6 55 28.10	25 30 46.8	61.58	2	8 53 27.26	17 49 9
3	6 58 4.32	25 24 37.3	63.28	3	8 55 45.05	17 36 34
4	7 0 40.23	25 18 17.6	64.97	4	8 58 2.46	17 23 53
5	7 3 15.81	25 11 47.8	66.65	5	9 0 19.49	17 11 7
6	7 5 51.07	25 5 7.9	68.32	6	9 2 36.14	16 58 15
7	7 8 26.00	24 58 18.0	69.95	7	9 4 52.41	16 45 17
8	7 11 0.60	24 51 18.3	71.58	8	9 7 8.32	16 32 15
9	7 13 34.85	24 44 8.8	73.22	9	9 9 23.85	16 19 8
10	7 16 8.75	24 36 49.5	74.82	10	9 11 39.01	16 5 55
11	7 18 42.30	24 29 20.6	76.40	11	9 13 53.81	15 52 38
12	7 21 15.50	24 21 42.2	77.98	12	9 16 8.25	15 39 15
13	7 23 48.33	24 13 54.3	79.53	13	9 18 22.33	15 25 48
14	7 26 20.80	24 5 57.1	81.08	14	9 20 36.06	15 12 17
15	7 28 52.90	23 57 50.6	82.62	15	9 22 49.44	14 58 41
16	7 31 24.62	23 49 34.9	84.12	16	9 25 2.47	14 45 0
17	7 33 55.97	23 41 10.2	85.63	17	9 27 15.15	14 31 15
18	7 36 26.94	23 32 36.4	87.12	18	9 29 27.50	14 17 26
19	7 38 57.52	23 23 53.7	88.57	19	9 31 39.51	14 3 33
20	7 41 27.72	23 15 2.3	90.03	20	9 33 51.19	13 49 36
21	7 43 57.53	23 6 2.1	91.48	21	9 36 2.55	13 35 34
22	7 46 26.94	22 56 53.2	92.88	22	9 38 13.58	13 21 29
23	7 48 55.97	22 47 35.9	94.30	23	9 40 24.29	13 7 20
24	7 51 24.59	N.22 38 10.1		24	9 42 34.68	N.12 53 8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 29.				FRIDAY 30.		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
9 42 34.68	N. 12 53 8.2	142.70	0	10 33 20.93	N. 6 57 32.8	152.67
9 44 44.76	12 38 52.0	143.28	1	10 35 24.90	6 42 16.8	152.90
9 46 54.53	12 24 32.3	143.87	2	10 37 28.67	6 26 59.4	153.13
9 49 4.01	12 10 9.1	144.40	3	10 39 32.25	6 11 40.6	153.35
9 51 13.18	11 55 42.7	144.95	4	10 41 35.64	5 56 20.5	153.55
9 53 22.06	11 41 13.0	145.47	5	10 43 38.86	5 40 59.2	153.73
9 55 30.65	11 26 40.2	145.98	6	10 45 41.90	5 25 36.8	153.90
9 57 38.95	11 12 4.3	146.47	7	10 47 44.77	5 10 13.4	154.07
9 59 46.98	10 57 25.5	146.95	8	10 49 47.47	4 54 49.0	154.22
10 1 54.72	10 42 43.8	147.42	9	10 51 50.01	4 39 23.7	154.35
10 4 2.20	10 27 59.3	147.87	10	10 53 52.39	4 23 57.6	154.47
10 6 9.40	10 13 12.1	148.30	11	10 55 54.62	4 8 30.8	154.58
10 8 16.35	9 58 22.3	148.72	12	10 57 56.71	3 53 3.3	154.67
10 10 23.04	9 43 30.0	149.12	13	10 59 58.66	3 37 35.3	154.75
10 12 29.47	9 28 35.3	149.50	14	11 2 0.47	3 22 6.8	154.82
10 14 35.66	9 13 38.3	149.90	15	11 4 2.15	3 6 37.9	154.88
10 16 41.60	8 58 38.9	150.25	16	11 6 3.70	2 51 8.6	154.92
10 18 47.30	8 43 37.4	150.60	17	11 8 5.12	2 35 39.1	154.97
10 20 52.77	8 28 33.8	150.93	18	11 10 6.43	2 20 9.3	154.97
10 22 58.01	8 13 28.2	151.27	19	11 12 7.63	2 4 39.5	154.98
10 25 3.02	7 58 20.6	151.55	20	11 14 8.72	1 49 9.6	154.97
10 27 7.81	7 43 11.3	151.87	21	11 16 9.71	1 33 39.8	154.95
10 29 12.40	7 28 0.1	152.15	22	11 18 10.60	1 18 10.1	154.93
10 31 16.77	7 12 47.2	152.40	23	11 20 11.39	1 2 40.5	154.88
10 33 20.93	N. 6 57 32.8		24	11 22 12.10	N. 0 47 11.2	

PHASES OF THE MOON.

○ Full Moon	5 13 31.1
☾ Last Quarter	13 10 4.8
● New Moon	21 2 31.6
☽ First Quarter	27 20 57.4
☾ Apogee	12 20
☾ Perigee	24 22

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o
1	SUN W.	121 13 52	2623	122 52 16	2627	124 30 35	2629	126
	Venus W.	78 44 25	2498	80 25 41	2500	82 6 55	2500	83
	Aldebaran W.	65 25 5	2376	67 9 14	2376	68 53 23	2376	70
	Pollux W.	22 39 0	2375	24 23 10	2367	26 7 32	2361	27
	Spica π E.	68 49 57	2298	67 3 54	2300	65 17 54	2302	63
	Mars E.	80 30 17	2248	78 43 1	2251	76 55 49	2252	75
2	Venus W.	92 13 35	2512	93 54 31	2516	95 35 22	2519	97
	Aldebaran W.	79 17 54	2385	81 1 50	2388	82 45 42	2391	84
	Pollux W.	36 35 50	2348	38 20 39	2350	40 5 26	2351	41
	Spica π E.	54 43 14	2320	52 57 43	2324	51 12 19	2328	49
	Mars E.	66 13 50	2270	64 27 7	2275	62 40 31	2280	60
	Jupiter E.	112 56 46	2335	111 11 38	2339	109 26 35	2342	107
3	Venus W.	105 38 39	2544	107 18 51	2550	108 58 54	2556	110
	Pollux W.	50 32 53	2372	52 17 8	2376	54 1 17	2382	55
	Spica π E.	40 42 19	2361	38 57 48	2368	37 13 27	2375	35
	Mars E.	52 3 44	2318	50 18 11	2326	48 32 50	2335	46
	Jupiter E.	98 58 16	2369	97 13 57	2375	95 29 46	2381	93
	Saturn E.	112 8 34	2370	110 24 16	2375	108 40 6	2382	106
4	Pollux W.	64 23 9	2422	66 6 13	2429	67 49 6	2438	69
	Regulus W.	27 22 16	2411	29 5 35	2419	30 48 42	2427	32
	Mars E.	38 5 47	2405	36 22 19	2419	34 39 12	2437	32
	Antares E.	72 35 56	2407	70 52 31	2415	69 9 17	2422	67
	Jupiter E.	85 7 57	2423	83 24 55	2432	81 42 6	2440	79
	Saturn E.	98 18 22	2424	96 35 21	2431	94 52 31	2440	93
5	Pollux W.	78 2 7	2492	79 43 31	2503	81 24 40	2512	83
	Regulus W.	41 3 12	2482	42 44 51	2492	44 26 15	2502	46
	Antares E.	58 54 13	2479	57 12 30	2489	55 31 2	2500	53
	Jupiter E.	71 29 34	2497	69 48 17	2508	68 7 15	2519	66
	Saturn E.	84 39 55	2496	82 58 36	2507	81 17 32	2517	79
6	Pollux W.	91 26 19	2581	93 5 40	2593	94 44 44	2605	96
	Regulus W.	54 29 25	2569	56 9 2	2582	57 48 22	2593	59
	Antares E.	45 27 32	2568	43 47 53	2580	42 8 30	2592	40
	Jupiter E.	58 6 33	2590	56 27 24	2602	54 48 32	2615	53
	Saturn E.	71 16 29	2586	69 37 15	2598	67 58 17	2611	66
	α Aquilæ E.	98 52 40	3237	97 27 14	3244	96 1 57	3252	94
7	Regulus W.	67 38 32	2669	69 15 54	2681	70 52 59	2694	72
	Spica π W.	13 47 29	2737	15 23 20	2736	16 59 12	2740	18
	Antares E.	32 18 6	2667	30 40 42	2680	29 3 35	2693	27
	Jupiter E.	45 1 43	2698	43 25 0	2714	41 48 38	2728	40
	Saturn E.	58 10 34	2689	56 33 39	2702	54 57 2	2715	53
	α Aquilæ E.	87 34 13	3322	86 10 27	3337	84 46 58	3353	83
8	Regulus W.	80 29 31	2771	82 4 37	2784	83 39 26	2796	85
	Spica π W.	26 31 29	2791	28 6 9	2801	29 40 36	2811	31
	Jupiter E.	32 17 31	2825	30 43 36	2844	29 10 5	2863	27
	Saturn E.	45 23 39	2799	43 49 10	2813	42 14 59	2827	40
	α Aquilæ E.	76 33 12	3470	75 12 14	3494	73 51 43	3517	72

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.	Midnight.	P. L. of diff.	XV ^b .	P. L. of diff.	XVIII ^b .	P. L. of diff.	XXI ^b .	P. L. of diff.
	° ' "		° ' "		° ' "		° ' "	
n W.	127 47 3	2635	129 25 10	2640	131 3 11	2644	132 41 7	2649
nus W.	85 29 19	2504	87 10 27	2505	88 51 33	2507	90 32 36	2510
debaran W.	72 21 40	2378	74 5 47	2379	75 49 52	2380	77 33 55	2383
llux W.	29 36 42	2352	31 21 25	2350	33 6 12	2348	34 51 1	2348
ica m E.	61 46 4	2307	60 0 15	2310	58 14 30	2313	56 28 49	2317
rs E.	73 21 33	2257	71 34 30	2260	69 47 32	2263	68 0 38	2267
nus W.	98 56 50	2527	100 37 26	2530	102 17 57	2535	103 58 21	2540
debaran W.	86 13 11	2400	87 56 46	2404	89 40 15	2409	91 23 37	2415
llux W.	43 34 52	2356	45 19 30	2359	47 4 3	2363	48 48 31	2367
ica m E.	47 41 49	2338	45 56 45	2343	44 11 48	2348	42 26 59	2355
rs E.	59 7 41	2291	57 21 28	2297	55 35 24	2303	53 49 29	2310
piter E.	105 56 44	2351	104 11 58	2354	102 27 17	2359	100 42 43	2364
nus W.	112 18 38	2567	113 58 18	2575	115 37 48	2581	117 17 9	2588
llux W.	57 29 10	2394	59 12 54	2400	60 56 29	2407	62 39 54	2414
ica m E.	33 45 16	2390	32 1 27	2399	30 17 51	2408	28 34 28	2418
rs E.	45 2 46	2355	43 18 6	2366	41 33 42	2378	39 49 35	2391
piter E.	92 1 51	2394	90 18 7	2401	88 34 33	2408	86 51 10	2415
turn E.	105 12 13	2394	103 28 30	2401	101 44 57	2409	100 1 35	2415
llux W.	71 14 17	2455	72 56 34	2464	74 38 38	2473	76 20 30	2483
egulus W.	34 14 22	2443	35 56 55	2453	37 39 14	2463	39 21 20	2472
rs E.	31 14 14	2477	29 32 29	2500	27 51 16	2527	26 10 41	2556
stares E.	65 43 23	2440	64 0 45	2450	62 18 21	2459	60 36 10	2469
piter E.	78 17 2	2458	76 34 50	2467	74 52 51	2477	73 11 5	2487
turn E.	91 27 27	2457	89 45 14	2467	88 3 14	2476	86 21 27	2487
llux W.	84 46 15	2535	86 26 39	2546	88 6 48	2558	89 46 41	2569
egulus W.	47 48 20	2524	49 29 0	2535	51 9 24	2546	52 49 33	2558
stares E.	52 8 50	2522	50 28 7	2533	48 47 39	2545	47 7 28	2556
piter E.	64 45 57	2541	63 5 41	2553	61 25 42	2565	59 45 59	2577
turn E.	77 56 8	2540	76 15 50	2551	74 35 47	2562	72 56 0	2574
llux W.	98 2 3	2630	99 40 17	2643	101 18 14	2655	102 55 54	2668
egulus W.	61 6 13	2618	62 44 43	2631	64 22 56	2643	66 0 53	2656
stares E.	38 50 34	2617	37 12 2	2629	35 33 46	2642	33 55 48	2654
piter E.	51 31 42	2642	49 53 44	2656	48 16 5	2669	46 38 44	2684
turn E.	64 41 13	2636	63 3 7	2649	61 25 19	2661	59 47 48	2675
Aquilæ E.	93 11 52	3271	91 47 6	3282	90 22 34	3294	88 58 16	3307
egulus W.	74 6 18	2720	75 42 32	2733	77 18 28	2745	78 54 8	2758
ica m W.	20 10 38	2753	21 46 8	2760	23 21 28	2770	24 56 35	2780
stares E.	25 50 13	2718	24 13 57	2731	22 37 58	2744	21 2 17	27
piter E.	38 36 52	2759	37 1 30	2774	35 26 28	2791	33 51 40	2801
turn E.	51 44 41	2743	50 8 58	2757	48 33 33	2771	46 58	
Aquilæ E.	82 0 58	3388	80 38 28	3407	79 16 20	3427	77	
egulus W.	86 48 16	2821	88 22 17	2833	89 56 2	2845	91	
ica m W.	32 48 47	2834	34 22 31	2845	35 56 1	2856		
piter E.	26 4 18	2905	24 32 5	2928	23 0 21	2951		
turn E.	39 7 33	2856	37 34 18	2870	36 1 21	2887		
Aquilæ E.	71 12 0	3568	69 52 51	3595	68 34 11	36		

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
9	Spica $\pi\gamma$ W.	39 2 17	2878	40 35 4	2889	42 7 37	2899	43 1
	Mars W.	30 27 56	2873	32 0 49	2873	33 33 41	2876	35
	Saturn E.	32 56 27	2916	31 24 29	2932	29 52 51	2949	28
	Fomalhaut E.	89 8 46	3209	87 42 47	3221	86 17 3	3233	84
	SUN E.	138 34 25	3255	137 9 21	3265	135 44 29	3277	134
10	Spica $\pi\gamma$ W.	51 18 18	2959	52 49 22	2969	54 20 13	2978	55
	Mars W.	42 49 35	2900	44 21 54	2905	45 54 7	2910	47
	Fomalhaut E.	77 47 57	3313	76 24 1	3327	75 0 21	3342	73
	α Pegasi E.	99 18 40	3138	97 51 16	3145	96 24 1	3153	94
	SUN E.	127 19 44	3339	125 56 18	3348	124 33 2	3358	123
11	Spica $\pi\gamma$ W.	63 21 48	3023	64 51 32	3030	66 21 8	3035	67
	Mars W.	55 5 9	2939	56 36 39	2944	58 8 2	2947	59
	Antares W.	17 28 46	3018	18 58 36	3024	20 28 19	3031	21
	Fomalhaut E.	66 44 20	3434	65 22 42	3451	64 1 23	3467	62
	α Pegasi E.	87 43 49	3199	86 17 38	3206	84 51 36	3213	83
	SUN E.	116 16 59	3407	114 54 50	3413	113 32 48	3419	112
12	Mars W.	67 14 50	2966	68 45 46	2967	70 16 40	2969	71
	Antares W.	29 24 16	3058	30 53 17	3061	32 22 15	3063	33
	Fomalhaut E.	56 0 29	3584	54 41 37	3607	53 23 10	3631	52
	α Pegasi E.	76 18 5	3250	74 52 55	3256	73 27 52	3261	72
	SUN E.	105 22 48	3447	104 1 25	3450	102 40 5	3453	101
13	Mars W.	79 21 42	2969	80 52 34	2967	82 23 28	2966	83
	Antares W.	41 15 19	3068	42 44 8	3067	44 12 58	3065	45
	Jupiter W.	29 11 45	3124	30 39 26	3117	32 7 15	3111	33
	Fomalhaut E.	45 42 30	3814	44 27 42	3854	43 13 35	3897	42
	α Pegasi E.	64 59 43	3292	63 35 22	3297	62 11 7	3301	60
	SUN E.	94 32 50	3458	93 11 39	3457	91 50 27	3455	90
14	Mars W.	91 29 58	2945	93 1 20	2941	94 32 47	2935	96
	Antares W.	53 6 54	3047	54 36 9	3043	56 5 29	3037	57
	Jupiter W.	40 56 44	3073	42 25 27	3066	43 54 18	3060	45
	Saturn W.	27 40 31	3105	29 8 34	3095	30 36 50	3085	32
	α Pegasi E.	53 47 43	3336	52 24 13	3343	51 0 51	3351	49
	SUN E.	83 42 19	3436	82 20 43	3431	80 59 2	3425	79
15	Mars W.	103 44 9	2896	105 16 33	2887	106 49 8	2880	108
	Antares W.	65 4 7	2996	66 34 25	2988	68 4 53	2979	69
	Jupiter W.	52 50 39	3010	54 20 40	3001	55 50 52	2990	57
	Saturn W.	39 30 35	3026	41 0 15	3016	42 30 8	3005	44
	α Pegasi E.	42 44 25	3420	41 22 31	3438	40 0 58	3459	38
	SUN E.	72 46 21	3382	71 23 44	3372	70 0 56	3364	68
16	Antares W.	77 11 51	2917	78 43 48	2906	80 15 59	2895	81
	Jupiter W.	64 56 37	2925	66 28 24	2913	68 0 26	2901	69
	Saturn W.	51 34 15	2936	53 5 48	2924	54 37 36	2912	56
	SUN E.	61 40 13	3301	60 16 2	3288	58 51 37	3276	57
17	Antares W.	89 34 32	2818	91 8 36	2804	92 42 59	2791	94
	Jupiter W.	77 18 19	2821	78 52 19	2808	80 26 36	2795	82
	Saturn W.	63 54 13	2832	65 28 0	2817	67 2 6	2803	68

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]	
ica m	W.	45 12 3	2920	46 43 56	2931	48 15 36	2941	49 47 3	2950
ars	W.	36 39 18	2882	38 12 0	2885	39 44 38	2890	41 17 9	2894
turn	E.	26 50 38	2983	25 20 4	3002	23 49 54	3023	22 20 10	3045
malhaut	E.	83 26 19	3259	82 1 20	3272	80 36 36	3287	79 12 9	3300
N	E.	132 55 25	3299	131 31 12	3309	130 7 11	3319	128 43 21	3330
ica m	W.	57 21 24	2994	58 51 44	3002	60 21 55	3010	61 51 56	3017
ars	W.	48 58 13	2920	50 30 7	2925	52 1 54	2930	53 33 35	2935
malhaut	E.	72 13 52	3371	70 51 3	3386	69 28 31	3402	68 6 17	3417
Pegasi	E.	93 30 0	3169	92 3 14	3176	90 36 36	3184	89 10 8	3192
N	E.	121 47 3	3375	120 24 18	3384	119 1 43	3392	117 39 17	3399
ica m	W.	69 19 59	3047	70 49 14	3051	72 18 24	3055	73 47 29	3059
ars	W.	61 10 35	2955	62 41 44	2958	64 12 49	2961	65 43 51	2963
atares	W.	23 27 22	3042	24 56 43	3046	26 25 59	3050	27 55 10	3054
malhaut	E.	61 19 42	3503	59 59 21	3523	58 39 22	3542	57 19 44	3563
Pegasi	E.	81 59 55	3226	80 34 17	3232	79 8 46	3238	77 43 22	3244
N	E.	110 49 5	3431	109 27 23	3435	108 5 46	3440	106 44 15	3444
ars	W.	73 18 23	2971	74 49 12	2970	76 20 2	2970	77 50 52	2970
atares	W.	35 20 3	3067	36 48 53	3068	38 17 42	3068	39 46 31	3069
malhaut	E.	50 47 35	3684	49 30 31	3712	48 13 57	3744	46 57 56	3777
Pegasi	E.	70 38 4	3272	69 13 20	3277	67 48 42	3282	66 24 9	3288
N	E.	99 57 35	3456	98 36 22	3458	97 15 11	3459	95 54 1	3458
ars	W.	85 25 23	2961	86 56 25	2957	88 27 32	2954	89 58 42	2950
atares	W.	47 10 44	3062	48 39 40	3058	50 8 41	3056	51 37 45	3052
upiter	W.	35 3 15	3099	36 31 26	3093	37 59 44	3087	39 28 10	3080
malhaut	E.	40 47 37	3997	39 35 54	4055	38 25 9	4119	37 15 26	4192
Pegasi	E.	59 22 53	3313	57 58 56	3318	56 35 5	3324	55 11 21	3329
N	E.	89 7 57	3452	87 46 39	3447	86 25 16	3445	85 3 50	3440
ars	W.	97 36 2	2924	99 7 51	2917	100 39 48	2910	102 11 54	2903
atares	W.	59 4 30	3025	60 34 11	3018	62 4 1	3012	63 33 59	3004
upiter	W.	46 52 25	3043	48 21 44	3036	49 51 12	3028	51 20 50	3019
turn	W.	33 33 57	3066	35 2 48	3056	36 31 52	3047	38 1 7	3036
Pegasi	E.	48 14 35	3368	46 51 42	3379	45 29 2	3392	44 6 36	3405
N	E.	78 15 19	3413	76 53 17	3406	75 31 7	3398	74 8 48	3391
ars	W.	109 54 49	2862	111 27 57	2852	113 1 17	2843	114 34 49	2834
atares	W.	71 6 23	2960	72 37 26	2950	74 8 41	2940	75 40 9	2929
upiter	W.	58 51 54	2970	60 22 44	2959	61 53 48	2949	63 25 2	2937
turn	W.	45 30 35	2984	47 1 8	2972	48 31 56	2961	50	
Pegasi	E.	37 19 4	3509	35 58 50	3542	34 39 12	3579		
N	E.	67 14 49	3344	65 51 29	3333	64 27 56	3323		
atares	W.	83 21 5	2870	84 54 2	2858	86 27 15	284		
upiter	W.	71 5 17	2876	72 38 7	2863	74 11 14			
turn	W.	57 42 1	2886	59 14 38	2873	60 47 32			
N	E.	56 2 3	3251	54 36 54	3238	53 11 30			
atares	W.	95 52 37	2763	97 27 54	2748	99 3 :			
upiter	W.	83 36 5	2765	85 11 19	2751	86 46 :			
turn	W.	70 11 12	2774	71 46 14	2759	73 21 :			

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX
		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u		^o
17	SUN E.	50 19 56	3198	48 53 44	3185	47 27 17	3172	46
18	Jupiter W.	89 58 53	2707	91 35 24	2693	93 12 14	2677	94 4
	Saturn W.	76 33 17	2714	78 9 38	2700	79 46 18	2685	81 2
	α Aquilæ W.	54 20 20	3763	55 36 1	3708	56 52 40	3655	58 1
	SUN E.	38 42 50	3090	37 14 28	3078	35 45 51	3064	34 1
23	SUN W.	25 27 31	2636	27 5 37	2621	28 44 3	2610	30 2
	Pollux E.	52 36 43	2269	50 49 58	2266	49 3 9	2264	47 1
	Regulus E.	89 26 13	2248	87 38 57	2243	85 51 34	2239	84
24	SUN W.	38 39 5	2567	40 18 45	2562	41 58 32	2560	43 3
	Pollux E.	38 21 22	2261	36 34 25	2264	34 47 32	2266	33
	Regulus E.	75 5 31	2223	73 17 38	2222	71 29 44	2222	69 4
25	SUN W.	51 58 12	2552	53 38 13	2553	55 18 12	2554	56 5
	Venus W.	24 45 27	2203	26 33 50	2203	28 22 13	2203	30 1
	Aldebaran W.	21 25 59	2747	23 1 36	2677	24 38 47	2621	26 1
	Pollux E.	24 8 55	2316	22 23 19	2333	20 38 8	2355	18 5
	Regulus E.	60 42 13	2225	58 54 22	2226	57 6 33	2228	55 1
26	SUN W.	65 17 20	2568	66 56 59	2572	68 36 33	2575	70 1
	Venus W.	39 12 15	2210	41 0 28	2211	42 48 39	2213	44 3
	Aldebaran W.	34 41 36	2449	36 24 1	2436	38 6 44	2426	39 4
	Regulus E.	46 20 56	2246	44 33 37	2249	42 46 23	2254	40 5
	Mars E.	103 18 24	2160	101 28 56	2163	99 39 33	2166	97 5
27	SUN W.	78 31 59	2602	80 10 51	2608	81 49 35	2613	83 2
	Venus W.	53 36 24	2231	55 24 6	2235	57 11 42	2237	58 5
	Aldebaran W.	48 26 53	2396	50 10 33	2395	51 54 15	2396	53 3
	Regulus E.	32 5 19	2283	30 18 54	2289	28 32 39	2295	26 4
	Spica η E.	86 8 32	2281	84 22 5	2286	82 35 45	2291	80 4
	Mars E.	88 45 20	2193	86 56 42	2198	85 8 12	2204	83 1
28	SUN W.	91 39 19	2649	93 17 7	2655	94 54 47	2662	96 3
	Venus W.	67 55 25	2261	69 42 22	2266	71 29 11	2270	73 1
	Aldebaran W.	62 15 59	2407	63 59 24	2410	65 42 45	2413	67 2
	Pollux W.	19 36 44	2443	21 19 17	2430	23 2 9	2422	24 4
	Spica η E.	72 0 36	2326	70 15 14	2332	68 30 1	2337	66 4
	Mars E.	74 20 6	2239	72 32 37	2245	70 45 17	2252	68 5
29	SUN W.	104 37 34	2704	106 14 9	2711	107 50 34	2719	109 2
	Venus W.	82 7 50	2298	83 53 52	2302	85 39 48	2308	87 2
	Pollux W.	33 21 21	2417	35 4 32	2419	36 47 39	2422	38 3
	Spica η E.	58 1 54	2377	56 17 46	2384	54 33 48	2391	52 5
	Mars E.	60 4 52	2295	58 18 45	2303	56 32 50	2311	54 4
	Jupiter E.	115 25 42	2367	113 41 20	2373	111 57 7	2379	110 1
30	SUN W.	117 25 32	2766	119 0 45	2774	120 35 47	2782	122 1
	Venus W.	96 12 45	2339	97 57 48	2344	99 42 43	2349	101 2
	Pollux W.	47 4 21	2451	48 46 44	2457	50 28 58	2463	52 1
	Spica η E.	44 13 32	2434	42 30 46	2442	40 48 11	2449	39 5
	Mars E.	46 1 34	2364	44 17 7	2374	42 32 55	2384	40 4
	Jupiter E.	101 34 53	2417	99 51 43	2424	98 8 43	2431	96 2

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
SUN	E.	44 33 34	3144	43 6 18	3130	41 38 45	3117	40 10 56	3103
Jupiter	W.	96 26 55	2648	98 4 45	2633	99 42 55	2618	101 21 25	2603
Saturn	W.	83 0 39	2655	84 38 19	2640	86 16 20	2625	87 54 41	2610
α Aquilæ	W.	59 28 43	3560	60 48 1	3516	62 8 8	3475	63 29 0	3435
SUN	E.	32 47 49	3040	31 18 26	3030	29 48 50	3020	28 19 2	3010
SUN	W.	32 1 40	2591	33 40 47	2583	35 20 5	2577	36 59 31	2572
Pollux	E.	45 29 19	2260	43 42 21	2259	41 55 21	2259	40 8 21	2260
Regulus	E.	82 16 30	2233	80 28 51	2229	78 41 7	2227	76 53 20	2226
SUN	W.	45 18 16	2555	46 58 13	2553	48 38 12	2553	50 18 12	2553
Pollux	E.	31 14 0	2276	29 27 26	2283	27 41 2	2291	25 54 50	2303
Regulus	E.	67 53 53	2221	66 5 57	2221	64 18 1	2222	62 30 6	2223
SUN	W.	58 38 6	2558	60 17 59	2559	61 57 50	2562	63 37 37	2565
Venus	W.	31 58 59	2204	33 47 21	2205	35 35 41	2206	37 23 59	2208
Aldebaran	W.	27 56 42	2539	29 37 1	2510	31 18 1	2485	32 59 35	2466
Pollux	E.	17 9 31	2422	15 26 27	2473	13 44 36	2547	12 4 28	2657
Regulus	E.	53 31 4	2233	51 43 26	2235	49 55 51	2239	48 8 21	2242
SUN	W.	71 55 26	2584	73 34 43	2588	75 13 55	2593	76 53 0	2597
Venus	W.	46 24 50	2219	48 12 50	2221	50 0 46	2225	51 48 37	2227
Aldebaran	W.	41 32 53	2410	43 16 14	2405	44 59 42	2401	46 43 15	2398
Regulus	E.	39 12 13	2262	37 25 18	2268	35 38 31	2272	33 51 51	2278
Mars	E.	96 1 3	2175	94 11 57	2179	92 22 58	2184	90 34 6	2188
SUN	W.	85 6 41	2624	86 45 3	2630	88 23 17	2637	90 1 22	2643
Venus	W.	60 46 40	2245	62 34 0	2249	64 21 14	2253	66 8 23	2257
Aldebaran	W.	55 21 38	2397	57 5 17	2398	58 48 55	2401	60 32 28	2403
Regulus	E.	25 0 35	2309	23 14 48	2315	21 29 11	2323	19 43 45	2332
Spica ♏	E.	79 3 29	2302	77 17 33	2309	75 31 46	2313	73 46 6	2320
Mars	E.	81 31 36	2215	79 43 30	2221	77 55 33	2227	76 7 45	2233
SUN	W.	98 9 39	2675	99 46 52	2683	101 23 55	2690	103 0 49	2696
Venus	W.	75 2 31	2279	76 49 1	2284	78 35 24	2288	80 21 41	2293
Aldebaran	W.	69 9 10	2422	70 52 13	2427	72 35 10	2431	74 18 0	2437
Pollux	W.	26 28 22	2414	28 11 36	2414	29 54 51	2413	31 38 7	2414
Spica ♏	E.	65 0 1	2351	63 15 15	2357	61 30 39	2364	59 46 12	2370
Mars	E.	67 11 7	2266	65 24 18	2273	63 37 39	2280	61 51 10	2287
SUN	W.	111 2 54	2734	112 38 49	2742	114 14 33	2750	115 50 7	2757
Venus	W.	89 11 16	2318	90 56 50	2323	92 42 16	2328	94 27 34	2333
Pollux	W.	40 13 39	2431	41 56 30	2436	43 39 14	2441	45 21 51	2446
Spica ♏	E.	51 6 22	2403	49 22 54	2412	47 39 36	2419	45 56 29	2426
Mars	E.	53 1 35	2328	51 16 16	2336	49 31 9	2345	47 46 15	2354
Jupiter	E.	108 29 6	2391	106 45 19	2398	105 1 41	2404	103 18 12	2411
SUN	W.	123 45 20	2799	125 19 49	2808	126 54 7	2817	128 28 13	2826
Venus	W.	103 12 11	2360	104 56 43	2366	106 41 7	2372	108 25 22	2377
Pollux	W.	53 53 2	2475	55 34 51	2482	57 16 30	2487	58 58 1	2494
Spica ♏	E.	37 23 34	2465	35 41 32	2474	33 59 42	2483	32 18 5	2492
Mars	E.	39 5 15	2407	37 21 50	2418	35 38 41	2432	33 55 52	2446
Jupiter	E.	94 43 11	2445	93 0 40	2452	91 18 19	2459	89 36 8	2466


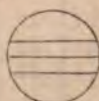
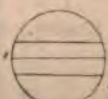
CONFIGURATIONS OF THE SATELLITES OF JUPITER

At 15^h 15^m, MEAN TIME.

Day of the Month.	<i>West.</i>			<i>East.</i>		
1		5.	·1	○	2.	
2	1. ○	.3		○		
3		.3		○ ·1		4.
4		1.	○	.3		4.
5			○	.12.4.	.3	
6		2.1	4. ○		3.	
7		4.	.2	○	3.1.	
8	4.	3.	·1	○	.2	
9	4.	.3		○ ·1		
10	.4	.3		○ ·1		
11	.4		1.	○ ·3		
12	.4			○	.1 2.	.3
13		.4	2.1	○		3.
14			.2	.4 ○	.3	
15			3.	·1	○	.4
16		3.		○ 2.		.4
17	·1 ●	.3 .2		○		.4
18	.3 ●		1.	○ ·2		
19				○	.1 2.	.3
20		1.2.		○		3.
21		.2	○		1. 3.	4.
22		.3.1	○		4.	.2
23		3.	4.	○	.3	
24		4.·3	2.	·1	○	
25	.2 ●	4.		○		
26	4.			○	.1	2.3
27	.4		1. 2.	○		3.
28	.4		.2	○	.1 3.	
29		.4	.1 3.	○	.2	
30		3.	.4	○	1.2.	

This Table represents, at 15^h 15^m after *Mean Noon* of each day of the month, the relative positions of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to indicate the directions of the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a point is at its greatest elongation, the point is placed above or below the centre of the numeral. A circle (○) at the left or right hand of the page, denotes that the Satellite placed by the side is on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *shadow* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

LITE.	Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
		h m s	h m s	
	1*	15 23 40.8	16 4 53.8	Im.
	3	9 52 8.1	10 40 19.7	Im.
	5	4 20 28.0	5 15 38.2	Im.
	6	22 48 56.1	23 51 4.9	Im.
	8	17 17 18.6	18 26 26.1	Im.
	10	11 45 46.9	13 1 53.0	Im.
	12	6 14 7.8	7 37 12.5	Im.
	14	0 42 36.7	2 12 40.1	Im.
	15	19 11 0.2	20 48 2.2	Im.
	17*	13 39 29.7	15 23 30.3	Im.
	19	8 7 51.5	9 58 50.8	Im.
	21	2 36 21.6	4 34 19.6	Im.
	22	21 4 46.4	23 9 43.0	Im.
	24*	15 33 17.1	17 45 12.4	Im.
	26	10 1 40.1	12 20 34.0	Im.
	28	4 30 11.4	6 56 4.0	Im.
	29	22 58 37.4	1 31 28.6	Im.
				i * 
	4	5 38 20.2	6 29 46.6	Im.
	7	18 54 48.5	20 0 15.5	Im.
	11	8 11 18.1	9 30 45.5	Im.
	14	21 27 47.9	23 1 15.9	Im.
	18	10 44 18.5	12 31 46.9	Im.
	22	0 0 50.6	2 2 19.6	Im.
	25*	13 17 24.1	15 32 53.6	Im.
	29	2 33 59.8	5 3 29.8	Im.
				i * 
	4	2 48 21.9	3 39 20.4	Im.
	4	5 11 20.5	6 2 42.5	Em.
	11	6 46 25.5	8 5 39.0	Im.
	11	9 10 9.9	10 29 47.0	Em.
	18	10 44 19.8	12 31 48.3	Im.
	18*	13 8 49.7	14 56 41.9	Em.
	25*	14 42 47.7	16 58 31.2	Im.
	25	17 8 5.4	19 24 12.8	Em.
				i * e * 

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SATELLITES.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
	d h m	d h m	d h m	d h m	d h m	d h m
I.		1 19 28	2* 14 33	2* 16 46	2 13 22	
		3 14 2	4 9 7	4 11 21	4 7 57	
		5 8 37	6 3 41	6 5 55	6 2 33	
		7 3 11	7 22 15	7 0 29	7 21 8	
		8 21 45	9* 16 49	9 19 3	9* 15 43	
		10* 16 20	11 11 23	11 13 37	11 10 18	1
	In	12 10 54	13 5 57	13 8 11	13 4 53	1
		14 5 28	14 0 31	15 2 45	14 23 29	1
	the	15 0 2	16 19 5	16 21 19	16 18 4	1
		17 18 36	18 13 39	18* 15 53	18 12 39	1
	Shadow.	19 13 10	20 8 13	20 10 26	20 7 14	2
		21 7 44	22 2 47	22 5 0	21 1 50	2
		23 2 17	23 21 20	23 23 34	23 20 25	2
		24 20 51	25* 15 54	25 18 7	25* 15 0	2
		26* 15 25	27 10 27	27 12 41	27 9 35	2
		28 9 58	29 5 1	29 7 14	29 4 11	2
		30 4 32	30 23 34	30 1 48	30 22 46	3
II.		4 11 18	2 13 54	2* 16 28	2 11 36	4
		7 0 45	6 3 23	6 5 57	6 1 8	4
	In	11 14 11	9* 16 50	9 19 24	9* 14 40	9
		15 3 36	13 6 18	13 8 52	13 4 12	13
	the	18* 17 1	16 19 44	16 22 18	16* 17 44	16
		22 6 25	20 9 11	20 11 45	20 7 16	20
	Shadow.	25 19 49	23 22 36	23 1 10	23 20 48	23
		29 9 13	27 12 2	27* 14 36	27 10 21	27
III.			30 1 26	31 4 0	30 23 52	30
		4 8 17	7 22 29	7 1 2	7 17 55	7
		11 12 25	15 2 35	15 5 8	14 22 20	14
		18* 16 29	22 6 36	22 9 9	22 2 45	22
		25 20 30	29 10 34	29 13 7	29 7 11	29

For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^d .809526, Days.	From Mean Noon of January 1.	
At Mean Midnight,						Day of the Year.	Fraction of the Year.
Logarithm of							
A	B	C	D				
—1°2616	—0°6299	+9°6763	—0°8504	^h 23 ^m 17 ^s 29°23	9	90	°246
1°2599	0°6633	9°6783	0°8495	23 13 33°33	10	91	°249
1°2581	0°6942	9°6803	0°8486	23 9 37°42	11	92	°252
—1°2562	—0°7230	+9°6823	—0°8477	23 5 41°51	12	93	°255
1°2541	0°7498	9°6843	0°8468	23 1 45°60	13	94	°257
1°2519	0°7749	9°6863	0°8458	22 57 49°69	14	95	°260
—1°2495	—0°7985	+9°6883	—0°8448	22 53 53°79	15	96	°263
1°2471	0°8208	9°6903	0°8437	22 49 57°88	16	97	°266
1°2444	0°8418	9°6924	0°8426	22 46 1°97	17	98	°268
—1°2417	—0°8617	+9°6944	—0°8415	22 42 6°06	18	99	°271
1°2388	0°8806	9°6965	0°8403	22 38 10°16	19	100	°274
1°2357	0°8986	9°6985	0°8391	22 34 14°25	20	101	°277
—1°2325	—0°9158	+9°7006	—0°8379	22 30 18°34	21	102	°279
1°2291	0°9322	9°7026	0°8366	22 26 22°43	22	103	°282
1°2256	0°9478	9°7047	0°8353	22 22 26°52	23	104	°285
—1°2220	—0°9628	+9°7068	—0°8340	22 18 30°61	24	105	°287
1°2181	0°9772	9°7089	0°8327	22 14 34°70	25	106	°290
1°2142	0°9909	9°7110	0°8313	22 10 38°80	26	107	°293
—1°2100	—1°0041	+9°7132	—0°8299	22 6 42°89	27	108	°296
1°2057	1°0168	9°7153	0°8285	22 2 46°98	28	109	°298
1°2012	1°0290	9°7174	0°8271	21 58 51°07	29	110	°301
—1°1966	—1°0408	+9°7196	—0°8256	21 54 55°16	30	111	°304
1°1918	1°0521	9°7218	0°8241	21 50 59°25	31	112	°307
1°1868	1°0630	9°7239	0°8226	21 47 3°34	32	113	°309
—1°1816	—1°0735	+9°7261	—0°8211	21 43 7°43	33	114	°312
1°1763	1°0836	9°7283	0°8195	21 39 11°52	34	115	°315
1°1707	1°0934	9°7305	0°8180	21 35 15°62	35	116	°318
—1°1650	—1°1028	+9°7327	—0°8164	21 31 19°70	36		
1°1590	1°1119	9°7350	0°8148	21 27 23°80	37		
1°1529	1°1206	9°7372	0°8132	21 23 27°88	38		
—1°1465	—1°1291	+9°7395	—0°8116	21 19 31°98	39		

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		
		h m s	s	° ' "	"	m s	m s
Sat.	1	2 33 54.21	9.547	N.15 6 41.9	44.98	1 5.98	3 3.12
Sun.	2	2 37 43.33	9.569	15 24 41.4	44.34	1 6.06	3 10.53
Mon.	3	2 41 32.99	9.592	15 42 25.6	43.70	1 6.14	3 17.41
Tues.	4	2 45 23.19	9.615	15 59 54.3	43.03	1 6.22	3 23.75
Wed.	5	2 49 13.94	9.638	16 17 7.1	42.36	1 6.30	3 29.54
Thur.	6	2 53 5.25	9.662	16 34 3.8	41.68	1 6.38	3 34.77
Frid.	7	2 56 57.14	9.686	16 50 44.1	40.98	1 6.47	3 39.43
Sat.	8	3 0 49.61	9.710	17 7 7.7	40.27	1 6.55	3 43.51
Sun.	9	3 4 42.66	9.735	17 23 14.3	39.55	1 6.63	3 47.00
Mon.	10	3 8 36.29	9.760	17 39 3.6	38.82	1 6.71	3 49.92
Tues.	11	3 12 30.52	9.785	17 54 35.4	38.08	1 6.79	3 52.24
Wed.	12	3 16 25.35	9.809	18 9 49.3	37.32	1 6.87	3 53.96
Thur.	13	3 20 20.77	9.834	18 24 45.0	36.55	1 6.95	3 55.09
Frid.	14	3 24 16.79	9.859	18 39 22.2	35.77	1 7.03	3 55.63
Sat.	15	3 28 13.41	9.883	18 53 40.7	34.98	1 7.11	3 55.56
Sun.	16	3 32 10.61	9.908	19 7 40.2	34.17	1 7.19	3 54.92
Mon.	17	3 36 8.40	9.932	19 21 20.2	33.35	1 7.27	3 53.69
Tues.	18	3 40 6.77	9.955	19 34 40.7	32.52	1 7.35	3 51.89
Wed.	19	3 44 5.70	9.979	19 47 41.3	31.68	1 7.43	3 49.52
Thur.	20	3 48 5.20	10.002	20 0 21.6	30.83	1 7.50	3 46.58
Frid.	21	3 52 5.24	10.025	20 12 41.5	29.97	1 7.58	3 43.11
Sat.	22	3 56 5.82	10.046	20 24 40.7	29.09	1 7.66	3 39.10
Sun.	23	4 0 6.92	10.067	20 36 18.8	28.21	1 7.73	3 34.56
Mon.	24	4 4 8.54	10.088	20 47 35.8	27.32	1 7.81	3 29.52
Tues.	25	4 8 10.66	10.108	20 58 31.4	26.41	1 7.88	3 23.97
Wed.	26	4 12 13.26	10.128	21 9 5.2	25.50	1 7.95	3 17.95
Thur.	27	4 16 16.32	10.147	21 19 17.1	24.58	1 8.02	3 11.47
Frid.	28	4 20 19.84	10.165	21 29 7.0	23.65	1 8.09	3 4.52
Sat.	29	4 24 23.80	10.183	21 38 34.5	22.71	1 8.15	2 57.13
Sun.	30	4 28 28.19	10.200	21 47 39.6	21.76	1 8.21	2 49.32
Mon.	31	4 32 33.00	10.217	21 56 21.9	20.82	1 8.27	2 41.09
Tues.	32	4 36 38.22		N.22 4 41.5		1 8.33	2 32.46

* Mean Time of the Semidiameter passing may be found by subtracting 0^m18 from the *Sidereal*

AT MEAN NOON.

Day of the Month.	THE SUN'S			Equation of Time, to be added to Mean Time.	Sidereal Time.
	Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
	^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
1	2 33 54.69	N.15 6 44.2	15 52.9	3 3.14	2 36 57.83
2	2 37 43.84	15 24 43.7	15 52.7	3 10.55	2 40 54.39
3	2 41 33.51	15 42 28.0	15 52.5	3 17.43	2 44 50.94
4	2 45 23.73	15 59 56.7	15 52.2	3 23.77	2 48 47.50
5	2 49 14.50	16 17 9.6	15 52.0	3 29.55	2 52 44.05
6	2 53 5.83	16 34 6.3	15 51.8	3 34.78	2 56 40.61
7	2 56 57.73	16 50 46.6	15 51.6	3 39.44	3 0 37.17
8	3 0 50.21	17 7 10.2	15 51.4	3 43.52	3 4 33.72
9	3 4 43.27	17 23 16.8	15 51.1	3 47.01	3 8 30.28
10	3 8 36.91	17 39 6.1	15 50.9	3 49.92	3 12 26.83
11	3 12 31.15	17 54 37.9	15 50.7	3 52.24	3 16 23.39
12	3 16 25.98	18 9 51.7	15 50.5	3 53.97	3 20 19.95
13	3 20 21.41	18 24 47.4	15 50.3	3 55.10	3 24 16.50
14	3 24 17.44	18 39 24.6	15 50.1	3 55.63	3 28 13.06
15	3 28 14.06	18 53 43.1	15 49.9	3 55.56	3 32 9.62
16	3 32 11.26	19 7 42.4	15 49.7	3 54.92	3 36 6.17
17	3 36 9.04	19 21 22.4	15 49.5	3 53.69	3 40 2.73
18	3 40 7.41	19 34 42.8	15 49.3	3 51.88	3 43 59.29
19	3 44 6.34	19 47 43.3	15 49.1	3 49.51	3 47 55.85
20	3 48 5.83	20 0 23.6	15 49.0	3 46.58	3 51 52.40
21	3 52 5.86	20 12 43.4	15 48.8	3 43.10	3 55 48.96
22	3 56 6.43	20 24 42.5	15 48.6	3 39.09	3 59 45.52
23	4 0 7.52	20 36 20.5	15 48.4	3 34.55	4 3 42.08
24	4 4 9.13	20 47 37.4	15 48.3	3 29.51	4 7 38.63
25	4 8 11.23	20 58 32.9	15 48.1	3 23.96	4 11 3
26	4 12 13.81	21 9 6.6	15 48.0	3 17.94	4 15
27	4 16 16.86	21 19 18.4	15 47.8	3 11.45	4 19
28	4 20 20.36	21 29 8.2	15 47.7	3 5.41	4 23
29	4 24 24.30	21 38 35.6	15 47.5	2 59.3	4 27
30	4 28 28.68	21 47 40.6	15 47.4	2 52.0	4 31
31	4 32 33.46	21 56 22.9	15 47.3	2 44.7	4 35
32	4 36 38.65	N.22 4 42.4	15 47		

* The Semidiameter for *Apparent Noon* may be assumed

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S		
	Longitude.	Latitude.		Semidiameter.		Horizontal
	Noon.	Noon.		Noon.	Midnight.	Noon.
1	40 54 24.7	S. 0.34	0.0036196	15 47.2	15 43.6	57 56.1
2	41 52 32.0	0.45	0.0037238	15 39.7	15 35.7	57 28.3
3	42 50 37.3	0.53	0.0038273	15 31.7	15 27.5	56 58.9
4	43 48 40.8	0.59	0.0039303	15 23.3	15 19.0	56 28.1
5	44 46 42.6	0.63	0.0040326	15 14.9	15 10.7	55 57.3
6	45 44 42.7	0.64	0.0041344	15 6.8	15 2.9	55 27.5
7	46 42 41.3	0.60	0.0042354	14 59.4	14 56.1	55 0.5
8	47 40 38.4	0.54	0.0043358	14 53.1	14 50.6	54 37.5
9	48 38 34.1	0.46	0.0044353	14 48.5	14 46.9	54 20.6
10	49 36 28.4	0.36	0.0045338	14 45.9	14 45.4	54 10.9
11	50 34 21.4	0.24	0.0046314	14 45.6	14 46.4	54 9.9
12	51 32 13.2	S. 0.10	0.0047278	14 47.9	14 50.1	54 18.4
13	52 30 3.8	N. 0.02	0.0048229	14 53.0	14 56.6	54 37.1
14	53 27 53.3	0.14	0.0049166	15 0.8	15 5.7	55 5.8
15	54 25 41.6	0.26	0.0050087	15 11.2	15 17.2	55 43.8
16	55 23 28.7	0.35	0.0050991	15 23.6	15 30.3	56 29.2
17	56 21 14.6	0.42	0.0051876	15 37.3	15 44.4	57 19.8
18	57 18 59.4	0.45	0.0052741	15 51.3	15 58.1	58 11.2
19	58 16 42.9	0.46	0.0053584	16 4.6	16 10.4	58 59.7
20	59 14 25.2	0.45	0.0054405	16 15.6	16 20.0	59 40.3
21	60 12 6.2	0.40	0.0055205	16 23.5	16 26.0	60 9.2
22	61 9 45.9	0.32	0.0055983	16 27.5	16 28.0	60 23.9
23	62 7 24.3	0.21	0.0056739	16 27.5	16 26.1	60 23.8
24	63 5 1.3	N. 0.09	0.0057474	16 23.8	16 20.7	60 10.3
25	64 2 37.0	S. 0.04	0.0058188	16 17.1	16 13.0	59 45.6
26	65 0 11.2	0.18	0.0058882	16 8.4	16 3.6	59 13.8
27	65 57 43.9	0.32	0.0059558	15 58.7	15 53.7	58 38.1
28	66 55 15.3	0.45	0.0060215	15 48.6	15 43.5	58 1.2
29	67 52 45.3	0.56	0.0060855	15 38.6	15 33.8	57 24.5
30	68 50 14.0	0.65	0.0061479	15 29.1	15 24.6	56 49.6
31	69 47 41.4	0.72	0.0062089	15 20.1	15 16.0	56 16.7
32	70 45 7.6	S. 0.75	0.0062686	15 11.9	15 8.0	55 46.3

MEAN TIME.

THE MOON'S

Day of the Month.	THE MOON'S					
	Longitude.		Latitude.		Age.	Meridian Passage.
	Noon.	Midnight.	Noon.	Midnight.	Noon.	
	[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	^d	^h ^m
1	171 0 33.4	177 45 47.1	S. 3 1 29.5	S. 3 28 32.9	9.9	9 1.9
2	184 28 29.7	191 8 36.1	3 52 30.0	4 13 5.3	10.9	9 47.3
3	197 45 57.7	204 20 26.7	4 30 5.2	4 43 20.7	11.9	10 33.5
4	210 51 53.6	217 20 10.5	4 52 45.2	4 58 18.3	12.9	11 21.1
5	223 45 8.9	230 6 43.8	5 0 1.0	4 57 57.5	13.9	12 10.5
6	236 24 51.0	242 39 32.1	4 52 14.3	4 43 3.1	14.9	13 1.8
7	248 50 48.8	254 58 48.9	4 30 35.9	4 15 4.3	15.9	13 54.1
8	261 3 43.7	267 5 48.6	3 56 43.6	3 35 50.4	16.9	14 46.2
9	273 5 23.1	279 2 50.8	3 12 40.2	2 47 28.6	17.9	15 37.0
10	284 58 38.9	290 53 17.8	2 20 33.2	1 52 9.7	18.9	16 25.7
11	296 47 20.4	302 41 23.1	1 22 35.0	S. 0 52 5.2	19.9	17 11.9
12	308 36 3.7	314 32 2.2	S. 0 20 57.2	N. 0 10 32.1	20.9	17 55.9
13	320 29 58.9	326 30 35.2	N. 0 42 5.4	1 13 24.9	21.9	18 38.3
14	332 34 32.3	338 42 29.8	1 44 11.6	2 14 6.0	22.9	19 20.2
15	344 55 6.9	351 12 56.9	2 42 47.0	3 9 52.8	23.9	20 2.5
16	357 36 32.4	4 6 18.4	3 34 59.2	3 57 43.3	24.9	20 46.6
17	10 42 33.9	17 25 29.5	4 17 39.2	4 34 21.6	25.9	21 33.7
18	24 15 8.5	31 11 20.6	4 47 26.9	4 56 31.7	26.9	22 25.2
19	38 13 48.4	45 22 1.6	5 1 16.6	5 1 24.6	27.9	23 21.9
20	52 35 20.2	59 52 55.4	4 56 45.2	4 47 14.8	28.9	6
21	67 13 51.0	74 37 6.8	4 32 54.8	4 13 55.5	0.5	0 23.5
22	82 1 39.4	89 26 26.1	3 50 35.7	3 23 19.7	1.5	1 28.3
23	96 50 28.4	104 12 51.9	2 52 38.7	2 19 7.6	2.5	2 33.3
24	111 32 50.6	118 49 47.0	1 43 26.9	N. 1 6 16.4	3.5	3 35.4
25	126 3 11.1	133 12 42.6	N. 0 28 17.6	S. 0 9 49.5	4.5	4 32.7
26	140 18 8.3	147 19 21.4	S. 0 47 27.2	1 24 0.1	5.5	5 25.4
27	154 16 21.0	161 9 10.7	1 58 55.4	2 31 45.7	6.5	
28	167 57 56.6	174 42 47.2	3 2 5.7	3 29 34.3		
29	181 23 51.6	188 1 19.7	3 53 53.6	4 14 49.6		
30	194 35 20.8	201 6 3.5	4 32 11.0	4 45 50.5		
31	207 33 35.0	213 58 2.4	4 55 42.9	5 1 46.5		
32	220 19 30.6	226 38 4.9	S. 5 4 2.5	S. 5 2 33.4		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
SATURDAY 1.				MONDAY 3.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	11 22 12.10	N. 0 47 11.2	154.83	0	12 58 30.78	S. 11 8 2
1	11 24 12.73	0 31 42.2	154.77	1	13 0 32.53	11 21 53
2	11 26 13.28	0 16 13.6	154.68	2	13 2 34.40	11 35 40
3	11 28 13.75	N. 0 0 45.5	154.60	3	13 4 36.39	11 49 23
4	11 30 14.16	S. 0 14 42.1	154.48	4	13 6 38.50	12 3 2
5	11 32 14.50	0 30 9.0	154.37	5	13 8 40.73	12 16 38
6	11 34 14.79	0 45 35.2	154.25	6	13 10 43.10	12 30 9
7	11 36 15.01	1 1 0.7	154.12	7	13 12 45.59	12 43 37
8	11 38 15.19	1 16 25.4	153.95	8	13 14 48.22	12 57 0
9	11 40 15.32	1 31 49.1	153.78	9	13 16 50.98	13 10 20
10	11 42 15.41	1 47 11.8	153.62	10	13 18 53.89	13 23 35
11	11 44 15.46	2 2 33.5	153.43	11	13 20 56.93	13 36 45
12	11 46 15.48	2 17 54.1	153.22	12	13 23 0.12	13 49 52
13	11 48 15.47	2 33 13.4	153.02	13	13 25 3.46	14 2 54
14	11 50 15.44	2 48 31.5	152.80	14	13 27 6.94	14 15 51
15	11 52 15.39	3 3 48.3	152.55	15	13 29 10.57	14 28 44
16	11 54 15.32	3 19 3.6	152.32	16	13 31 14.36	14 41 33
17	11 56 15.25	3 34 17.5	152.05	17	13 33 18.30	14 54 16
18	11 58 15.17	3 49 29.8	151.78	18	13 35 22.41	15 6 55
19	12 0 15.09	4 4 40.5	151.50	19	13 37 26.67	15 19 29
20	12 2 15.01	4 19 49.5	151.22	20	13 39 31.09	15 31 59
21	12 4 14.94	4 34 56.8	150.90	21	13 41 35.68	15 44 23
22	12 6 14.88	4 50 2.2	150.60	22	13 43 40.44	15 56 42
23	12 8 14.84	S. 5 5 5.8	150.27	23	13 45 45.36	S. 16 8 57
SUNDAY 2.				TUESDAY 4.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	12 10 14.82	S. 5 20 7.4	149.93	0	13 47 50.45	S. 16 21 6
1	12 12 14.82	5 35 7.0	149.58	1	13 49 55.71	16 33 10
2	12 14 14.86	5 50 4.5	149.23	2	13 52 1.14	16 45 9
3	12 16 14.92	6 4 59.9	148.85	3	13 54 6.75	16 57 3
4	12 18 15.03	6 19 53.0	148.48	4	13 56 12.53	17 8 51
5	12 20 15.17	6 34 43.9	148.07	5	13 58 18.49	17 20 34
6	12 22 15.36	6 49 32.3	147.68	6	14 0 24.63	17 32 12
7	12 24 15.60	7 4 18.4	147.25	7	14 2 30.94	17 43 43
8	12 26 15.90	7 19 1.9	146.83	8	14 4 37.43	17 55 10
9	12 28 16.25	7 33 42.9	146.38	9	14 6 44.11	18 6 31
10	12 30 16.66	7 48 21.2	145.93	10	14 8 50.96	18 17 46
11	12 32 17.13	8 2 56.8	145.47	11	14 10 58.00	18 28 55
12	12 34 17.67	8 17 29.6	145.00	12	14 13 5.22	18 39 59
13	12 36 18.28	8 31 59.6	144.50	13	14 15 12.62	18 50 56
14	12 38 18.97	8 46 26.6	144.02	14	14 17 20.21	19 1 48
15	12 40 19.74	9 0 50.7	143.50	15	14 19 27.98	19 12 34
16	12 42 20.59	9 15 11.7	142.98	16	14 21 35.94	19 23 14
17	12 44 21.52	9 29 29.6	142.47	17	14 23 44.08	19 33 47
18	12 46 22.55	9 43 44.4	141.92	18	14 25 52.40	19 44 15
19	12 48 23.67	9 57 55.9	141.37	19	14 28 0.91	19 54 36
20	12 50 24.88	10 12 4.1	140.80	20	14 30 9.61	20 4 51
21	12 52 26.20	10 26 8.9	140.23	21	14 32 18.49	20 15 0
22	12 54 27.62	10 40 10.3	139.65	22	14 34 27.56	20 25 2
23	12 56 29.15	10 54 8.2	139.05	23	14 36 36.81	20 34 58
24	12 58 30.78	S. 11 8 2.5		24	14 38 46.24	S. 20 44 47

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 5.				FRIDAY 7.		
^m ^s ^o ⁱ ["] ["]				^h ^m ^s ^o ⁱ ["] ["]		
38 46' 24 S. 20 44 47' 9 97' 17			0	16 25 24' 58 S. 26 15 0' 7 36' 97		
40 55' 86 20 54 30' 9 96' 07			1	16 27 40' 62 26 18 42' 5 35' 60		
43 5' 67 21 4 7' 3 94' 97			2	16 29 56' 71 26 22 16' 1 34' 23		
45 15' 65 21 13 37' 1 93' 85			3	16 32 12' 84 26 25 41' 5 32' 85		
47 25' 82 21 23 0' 2 92' 72			4	16 34 29' 02 26 28 58' 6 31' 48		
49 36' 17 21 32 16' 5 91' 60			5	16 36 45' 23 26 32 7' 5 30' 12		
51 46' 70 21 41 26' 1 90' 47			6	16 39 1' 47 26 35 8' 2 28' 73		
53 57' 40 21 50 28' 9 89' 32			7	16 41 17' 73 26 38 0' 6 27' 37		
56 8' 29 21 59 24' 8 88' 15			8	16 43 34' 02 26 40 44' 8 25' 98		
58 19' 35 22 8 13' 7 87' 00			9	16 45 50' 33 26 43 20' 7 24' 60		
0 30' 59 22 16 55' 7 85' 83			10	16 48 6' 64 26 45 48' 3 23' 22		
2 42' 00 22 25 30' 7 84' 65			11	16 50 22' 96 26 48 7' 6 21' 85		
4 53' 58 22 33 58' 6 83' 47			12	16 52 39' 29 26 50 18' 7 20' 47		
7 5' 33 22 42 19' 4 82' 27			13	16 54 55' 61 26 52 21' 5 19' 08		
9 17' 26 22 50 33' 0 81' 07			14	16 57 11' 93 26 54 16' 0 17' 70		
11 29' 34 22 58 39' 4 79' 87			15	16 59 28' 23 26 56 2' 2 16' 33		
13 41' 60 23 6 38' 6 78' 65			16	17 1 44' 52 26 57 40' 2 14' 95		
15 54' 01 23 14 30' 5 77' 42			17	17 4 0' 79 26 59 9' 9 13' 58		
18 6' 59 23 22 15' 0 76' 22			18	17 6 17' 03 27 0 31' 4 12' 18		
20 19' 32 23 29 52' 3 74' 97			19	17 8 33' 23 27 1 44' 5 10' 83		
22 32' 21 23 37 22' 1 73' 78			20	17 10 49' 41 27 2 49' 5 9' 43		
24 45' 26 23 44 44' 5 72' 48			21	17 13 5' 54 27 3 46' 1 8' 08		
26 58' 45 23 51 59' 4 71' 23			22	17 15 21' 62 27 4 34' 6 6' 70		
29 11' 80 S. 23 59 6' 8 69' 98			23	17 17 37' 65 S. 27 5 14' 8 5' 33		
THURSDAY 6.				SATURDAY 8.		
^m ^s ^o ⁱ ["] ["]				^h ^m ^s ^o ⁱ ["] ["]		
31 25' 29 S. 24 6 6' 7 68' 72			0	17 19 53' 63 S. 27 5 46' 8 3' 97		
33 38' 93 24 12 59' 0 67' 45			1	17 22 9' 55 27 6 10' 6 2' 60		
35 52' 71 24 19 43' 7 66' 18			2	17 24 25' 40 27 6 26' 2 1' 23		
38 6' 63 24 26 20' 8 64' 90			3	17 26 41' 18 27 6 33' 6 0' 12		
40 20' 68 24 32 50' 2 63' 62			4	17 28 56' 89 27 6 32' 9 1' 48		
42 34' 87 24 39 11' 9 62' 32			5	17 31 12' 51 27 6 24' 0 2' 85		
44 49' 18 24 45 25' 8 61' 03			6	17 33 28' 06 27 6 6' 9 4' 20		
47 3' 62 24 51 32' 0 59' 72			7	17 35 43' 51 27 5 41' 7 5' 55		
49 18' 18 24 57 30' 3 58' 42			8	17 37 58' 87 27 5 8' 4 6' 90		
51 32' 85 25 3 20' 8 57' 12			9	17 40 14' 13 27 4 27' 0 8' 23		
53 47' 64 25 9 3' 5 55' 80			10	17 42 29' 29 27 3 37' 6 9' 58		
56 2' 55 25 14 38' 3 54' 47			11	17 44 44' 34 27 2 40' 1 10' 93		
58 17' 55 25 20 5' 1 53' 15			12	17 46 59' 28 27 1 34' 5 12' 27		
0 32' 66 25 25 24' 0 51' 82			13	17 49 14' 11 27 0 20' 9 13' 60		
2 47' 87 25 30 34' 9 50' 48			14	17 51 28' 81 26 58 59' 3 14' 92		
5 3' 18 25 35 37' 8 49' 15			15	17 53 43' 40 26 57 29' 8 16' 25		
7 18' 58 25 40 32' 7 47' 82			16	17 55 57' 85 26 55 52' 3 17' 57		
9 34' 07 25 45 19' 6 46' 47			17	17 58 12' 17 26 54 6' 9 18' 90		
11 49' 64 25 49 58' 4 45' 12			18	18 0 26' 35 26 52 13' 5 20' 20		
14 5' 29 25 54 29' 1 43' 77			19	18 2 40' 40 26 50 12' 3 21' 52		
16 21' 01 25 58 51' 7 42' 42			20	18 4 54' 30 26 48 3' 2 22		
18 36' 80 26 3 6' 2 41' 03			21	18 7 8' 03 26 45 46' 3 2		
20 52' 67 26 7 12' 5 39' 70			22	18 9 21' 65 26 43 21' 6 1		
23 8' 59 26 11 10' 7 38' 33			23	18 11 35' 10 26 40 49' 2 1		
25 24' 58 S. 26 15 0' 7			24	18 13 48' 38 S. 26 38 9' 0		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
SUNDAY 9.				TUESDAY 11.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	18 13 48.38	S. 26 38 9.0	27.98	0	19 56 27.27	S. 22 10 7.1
1	18 16 1.50	26 35 21.1	29.27	1	19 58 30.00	22 1 54.1
2	18 18 14.46	26 32 25.5	30.55	2	20 0 32.50	21 53 35.1
3	18 20 27.24	26 29 22.2	31.82	3	20 2 34.77	21 45 10.1
4	18 22 39.85	26 26 11.3	33.07	4	20 4 36.81	21 36 40.1
5	18 24 52.29	26 22 52.9	34.33	5	20 6 38.61	21 28 4.1
6	18 27 4.54	26 19 26.9	35.58	6	20 8 40.19	21 19 23.1
7	18 29 16.61	26 15 53.4	36.83	7	20 10 41.53	21 10 36.0
8	18 31 28.50	26 12 12.4	38.07	8	20 12 42.65	21 1 43.1
9	18 33 40.19	26 8 24.0	39.30	9	20 14 43.55	20 52 45.6
10	18 35 51.70	26 4 28.2	40.53	10	20 16 44.21	20 43 42.3
11	18 38 3.00	26 0 24.9	41.75	11	20 18 44.65	20 34 33.6
12	18 40 14.11	25 56 14.4	42.97	12	20 20 44.87	20 25 19.7
13	18 42 25.02	25 51 56.6	44.18	13	20 22 44.87	20 16 0.5
14	18 44 35.73	25 47 31.5	45.38	14	20 24 44.65	20 6 36.1
15	18 46 46.23	25 42 59.2	46.57	15	20 26 44.21	19 57 6.5
16	18 48 56.53	25 38 19.8	47.78	16	20 28 43.56	19 47 31.8
17	18 51 6.62	25 33 33.1	48.95	17	20 30 42.69	19 37 52.1
18	18 53 16.49	25 28 39.4	50.13	18	20 32 41.61	19 28 7.3
19	18 55 26.15	25 23 38.6	51.30	19	20 34 40.32	19 18 17.3
20	18 57 35.60	25 18 30.8	52.47	20	20 36 38.81	19 8 22.8
21	18 59 44.83	25 13 16.0	53.62	21	20 38 37.11	18 58 23.1
22	19 1 53.84	25 7 54.3	54.78	22	20 40 35.20	18 48 18.1
23	19 4 2.62	S. 25 2 25.6	55.92	23	20 42 33.08	S. 18 38 9.1
MONDAY 10.				WEDNESDAY 12.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	19 6 11.19	S. 24 56 50.1	57.07	0	20 44 30.76	S. 18 27 55.1
1	19 8 19.53	24 51 7.7	58.18	1	20 46 28.25	18 17 36.1
2	19 10 27.65	24 45 18.6	59.32	2	20 48 25.54	18 7 13.1
3	19 12 35.54	24 39 22.7	60.42	3	20 50 22.64	17 56 45.0
4	19 14 43.20	24 33 20.2	61.55	4	20 52 19.55	17 46 12.3
5	19 16 50.63	24 27 10.9	62.63	5	20 54 16.27	17 35 35.0
6	19 18 57.83	24 20 55.1	63.75	6	20 56 12.81	17 24 53.3
7	19 21 4.80	24 14 32.6	64.82	7	20 58 9.16	17 14 7.0
8	19 23 11.54	24 8 3.7	65.92	8	21 0 5.33	17 3 16.3
9	19 25 18.04	24 1 28.2	66.98	9	21 2 1.32	16 52 21.3
10	19 27 24.30	23 54 46.3	68.03	10	21 3 57.14	16 41 21.8
11	19 29 30.34	23 47 58.1	69.12	11	21 5 52.78	16 30 18.1
12	19 31 36.13	23 41 3.4	70.17	12	21 7 48.26	16 19 10.1
13	19 33 41.69	23 34 2.4	71.20	13	21 9 43.57	16 7 57.9
14	19 35 47.02	23 26 55.2	72.25	14	21 11 38.71	15 56 41.4
15	19 37 52.11	23 19 41.7	73.27	15	21 13 33.69	15 45 20.9
16	19 39 56.96	23 12 22.1	74.30	16	21 15 28.51	15 33 56.2
17	19 42 1.57	23 4 56.3	75.30	17	21 17 23.18	15 22 27.5
18	19 44 5.95	22 57 24.5	76.32	18	21 19 17.70	15 10 54.7
19	19 46 10.09	22 49 46.6	77.33	19	21 21 12.06	14 59 18.0
20	19 48 14.00	22 42 2.6	78.32	20	21 23 6.29	14 47 37.3
21	19 50 17.67	22 34 12.7	79.28	21	21 25 0.36	14 35 52.7
22	19 52 21.10	22 26 17.0	80.28	22	21 26 51.30	14 24 4.3
23	19 54 24.30	22 18 15.3	81.25	23	21 28 48.10	14 12 12.0
24	19 56 27.27	S. 22 10 7.8		24	21 30 41.78	S. 14 0 16.0

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 13.				SATURDAY 15.		
41° 78'	S. 14° 0' 16" 0	119° 97'	0	23 0 15° 59'	S. 3 26 34° 9'	141° 90'
35° 32'	13 48 16° 2	120° 57'	1	23 2 7° 51'	3 12 23° 5	142° 18'
28° 74'	13 36 12° 8	121° 18'	2	23 3 59° 50'	2 58 10° 4	142° 47'
22° 03'	13 24 5° 7	121° 80'	3	23 5 51° 56'	2 43 55° 6	142° 73'
15° 20'	13 11 54° 9	122° 38'	4	23 7 43° 71'	2 29 39° 2	142° 98'
8° 26'	12 59 40° 6	122° 97'	5	23 9 35° 94'	2 15 21° 3	143° 23'
1° 21'	12 47 22° 8	123° 57'	6	23 11 28° 27'	2 1 1° 9	143° 48'
54° 04'	12 35 1° 4	124° 13'	7	23 13 20° 69'	1 46 41° 0	143° 73'
46° 78'	12 22 36° 6	124° 70'	8	23 15 13° 21'	1 32 18° 6	143° 93'
39° 41'	12 10 8° 4	125° 27'	9	23 17 5° 84'	1 17 55° 0	144° 17'
31° 95'	11 57 36° 8	125° 82'	10	23 18 58° 58'	1 3 30° 0	144° 37'
24° 39'	11 45 1° 9	126° 37'	11	23 20 51° 43'	0 49 3° 8	144° 58'
16° 74'	11 32 23° 7	126° 92'	12	23 22 44° 41'	0 34 36° 3	144° 77'
9° 01'	11 19 42° 2	127° 43'	13	23 24 37° 51'	0 20 7° 7	144° 93'
1° 19'	11 6 57° 6	127° 98'	14	23 26 30° 75'	S. 0 5 38° 1	145° 13'
53° 29'	10 54 9° 7	128° 50'	15	23 28 24° 11'	N. 0 8 52° 7	145° 28'
45° 33'	10 41 18° 7	129° 02'	16	23 30 17° 62'	0 23 24° 4	145° 45'
37° 29'	10 28 24° 6	129° 52'	17	23 32 11° 27'	0 37 57° 1	145° 60'
29° 18'	10 15 27° 5	130° 03'	18	23 34 5° 08'	0 52 30° 7	145° 73'
21° 01'	10 2 27° 3	130° 52'	19	23 35 59° 04'	1 7 5° 1	145° 88'
12° 78'	9 49 24° 2	131° 02'	20	23 37 53° 15'	1 21 40° 4	145° 98'
4° 50'	9 36 18° 1	131° 48'	21	23 39 47° 44'	1 36 16° 3	146° 12'
56° 17'	9 23 9° 2	131° 98'	22	23 41 41° 89'	1 50 53° 0	146° 20'
47° 79'	S. 9 9 57° 3	132° 43'	23	23 43 36° 52'	N. 2 5 30° 2	146° 32'
FRIDAY 14.				SUNDAY 16.		
39° 37'	S. 8 56 42° 7	132° 90'	0	23 45 31° 33'	N. 2 20 8° 1	146° 40'
30° 91'	8 43 25° 3	133° 37'	1	23 47 26° 33'	2 34 46° 5	146° 48'
22° 41'	8 30 5° 1	133° 80'	2	23 49 21° 51'	2 49 25° 4	146° 53'
13° 88'	8 16 42° 3	134° 25'	3	23 51 16° 89'	3 4 4° 6	146° 60'
5° 33'	8 3 16° 8	134° 68'	4	23 53 12° 46'	3 18 44° 2	146° 65'
56° 76'	7 49 48° 7	135° 12'	5	23 55 8° 25'	3 33 24° 1	146° 67'
48° 16'	7 36 18° 0	135° 53'	6	23 57 4° 24'	3 48 4° 1	146° 72'
39° 56'	7 22 44° 8	135° 95'	7	23 59 0° 45'	4 2 44° 4	146° 72'
30° 95'	7 9 9° 1	136° 35'	8	0 0 56° 88'	4 17 24° 7	146° 72'
22° 33'	6 55 31° 0	136° 75'	9	0 2 53° 54'	4 32 5° 0	146° 72'
13° 72'	6 41 50° 5	137° 15'	10	0 4 50° 43'	4 46 45° 3	146° 68'
5° 10'	6 28 7° 6	137° 53'	11	0 6 47° 55'	5 1 25° 4	146° 67'
56° 50'	6 14 22° 4	137° 92'	12	0 8 44° 92'	5 16 5° 4	146° 62'
47° 91'	6 0 34° 9	138° 28'	13	0 10 42° 53'	5 30 45° 1	146° 57'
39° 34'	5 46 45° 2	138° 65'	14	0 12 40° 40'	5 45 24° 5	146° 50'
30° 79'	5 32 53° 3	139° 00'	15	0 14 38° 52'	6 0 3° 5	146° 43'
22° 27'	5 18 59° 3	139° 25'	16	0 16 36° 90'	6 14 42° 1	146° 33'
13° 78'	5 5 3° 2	139° 72'	17	0 18 35° 55'	6 29 20° 1	146° 25'
5° 33'	4 51 4° 9	140° 03'	18	0 20 34° 47'	6 43 57° 6	
56° 91'	4 37 4° 7	140° 37'	19	0 22 33° 67'	6 58 3° 1	
48° 54'	4 23 2° 5	140° 68'	20	0 24 33° 14'	7 13 1°	
40° 22'	4 8 58° 4	141° 00'	21	0 26 32° 91'	7 27° 1	
31° 95'	3 54 52° 4	141° 32'	22	0 28 32° 97'	7 42°	
23° 74'	3 40 44° 5	141° 60'	23	0 30 33° 32'	7 56°	
15° 59'	S. 3 26 34° 9		24	0 32 33° 98'	N. 8 11°	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
MONDAY 17.				WEDNESDAY 19.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	0 32 33.98	N. 8 11 25.8	145.22	0	2 16 34.02	N. 19 0 0
1	0 34 34.95	8 25 57.1	145.00	1	2 18 54.98	19 12 0
2	0 36 36.23	8 40 27.1	144.82	2	2 21 16.44	19 24 0
3	0 38 37.82	8 54 56.0	144.57	3	2 23 38.40	19 35 0
4	0 40 39.75	9 9 23.4	144.35	4	2 26 0.85	19 47 0
5	0 42 42.00	9 23 49.5	144.10	5	2 28 23.80	19 58 0
6	0 44 44.58	9 38 14.1	143.82	6	2 30 47.24	20 9 0
7	0 46 47.50	9 52 37.0	143.57	7	2 33 11.19	20 21 0
8	0 48 50.76	10 6 58.4	143.25	8	2 35 35.63	20 32 0
9	0 50 54.37	10 21 17.9	142.97	9	2 38 0.58	20 43 0
10	0 52 58.34	10 35 35.7	142.63	10	2 40 26.02	20 54 0
11	0 55 2.66	10 49 51.5	142.30	11	2 42 51.96	21 4 0
12	0 57 7.35	11 4 5.3	141.97	12	2 45 18.39	21 15 0
13	0 59 12.41	11 18 17.1	141.58	13	2 47 45.33	21 25 0
14	1 1 17.84	11 32 26.6	141.22	14	2 50 12.76	21 36 0
15	1 3 23.64	11 46 33.9	140.83	15	2 52 40.68	21 46 0
16	1 5 29.83	12 0 38.9	140.42	16	2 55 9.10	21 56 0
17	1 7 36.41	12 14 41.4	139.98	17	2 57 38.02	22 6 0
18	1 9 43.37	12 28 41.3	139.55	18	3 0 7.42	22 16 0
19	1 11 50.73	12 42 38.6	139.10	19	3 2 37.31	22 26 0
20	1 13 58.49	12 56 33.2	138.62	20	3 5 7.68	22 35 0
21	1 16 6.66	13 10 24.9	138.12	21	3 7 38.54	22 45 0
22	1 18 15.23	13 24 13.6	137.63	22	3 10 9.88	22 54 0
23	1 20 24.21	N. 13 37 59.4	137.10	23	3 12 41.70	N. 23 3 4
TUESDAY 18.				THURSDAY 20.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	1 22 33.61	N. 13 51 42.0	136.55	0	3 15 13.98	N. 23 12 4
1	1 24 43.43	14 5 21.3	136.02	1	3 17 46.74	23 21 3
2	1 26 53.68	14 18 57.4	135.42	2	3 20 19.97	23 30 2
3	1 29 4.35	14 32 29.9	134.85	3	3 22 53.67	23 38 5
4	1 31 15.46	14 45 59.0	134.23	4	3 25 27.81	23 47 2
5	1 33 27.01	14 59 24.4	133.60	5	3 28 2.42	23 55 3
6	1 35 38.99	15 12 46.0	132.98	6	3 30 37.47	24 3 4
7	1 37 51.43	15 26 3.9	132.30	7	3 33 12.96	24 11 4
8	1 40 4.31	15 39 17.7	131.63	8	3 35 48.90	24 19 3
9	1 42 17.64	15 52 27.5	130.95	9	3 38 25.27	24 27 1
10	1 44 31.43	16 5 33.2	130.22	10	3 41 2.06	24 34 3
11	1 46 45.67	16 18 34.5	129.50	11	3 43 39.27	24 41 5
12	1 49 0.39	16 31 31.5	128.75	12	3 46 16.90	24 49 0
13	1 51 15.57	16 44 24.0	128.00	13	3 48 54.94	24 56 4
14	1 53 31.21	16 57 12.0	127.20	14	3 51 33.39	25 2 53
15	1 55 47.33	17 9 55.2	126.40	15	3 54 12.22	25 9 31
16	1 58 3.92	17 22 33.6	125.57	16	3 56 51.44	25 15 58
17	2 0 20.99	17 35 7.0	124.73	17	3 59 31.04	25 22 16
18	2 2 38.54	17 47 35.4	123.87	18	4 2 11.01	25 28 22
19	2 4 56.57	17 59 58.6	122.98	19	4 4 51.35	25 34 18
20	2 7 15.09	18 12 16.5	122.08	20	4 7 32.04	25 40 4
21	2 9 34.09	18 24 29.0	121.17	21	4 10 13.07	25 45 38
22	2 11 53.58	18 36 36.0	120.22	22	4 12 54.44	25 51 1
23	2 14 13.55	18 48 37.3	119.27	23	4 15 36.14	25 56 14
24	2 16 34.02	N. 19 0 32.9		24	4 18 18.16	N. 26 1 12

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 21.			SUNDAY 23.			
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
4 18 18.16	N. 26 1 15.6	48.35	0	6 30 27.98	N. 26 9 29.5	47.27
4 21 0.49	26 6 5.7	46.47	1	6 33 11.43	26 4 45.9	49.17
4 23 43.12	26 10 44.5	44.58	2	6 35 54.61	25 59 50.9	51.05
4 26 26.04	26 15 12.0	42.67	3	6 38 37.52	25 54 44.6	52.95
4 29 9.24	26 19 28.0	40.77	4	6 41 20.15	25 49 26.9	54.82
4 31 52.71	26 23 32.6	38.85	5	6 44 2.48	25 43 58.0	56.67
4 34 36.43	26 27 25.7	36.90	6	6 46 44.51	25 38 18.0	58.52
4 37 20.40	26 31 7.1	34.97	7	6 49 26.23	25 32 26.9	60.35
4 40 4.61	26 34 36.9	33.00	8	6 52 7.63	25 26 24.8	62.15
4 42 49.04	26 37 54.9	31.05	9	6 54 48.70	25 20 11.9	63.97
4 45 33.69	26 41 1.2	29.07	10	6 57 29.44	25 13 48.1	65.75
4 48 18.54	26 43 55.6	27.08	11	7 0 9.83	25 7 13.6	67.52
4 51 3.57	26 46 38.1	25.10	12	7 2 49.87	25 0 28.5	69.27
4 53 48.79	26 49 8.7	23.10	13	7 5 29.55	24 53 32.9	71.02
4 56 34.18	26 51 27.3	21.10	14	7 8 8.86	24 46 26.8	72.73
4 59 19.72	26 53 33.9	19.10	15	7 10 47.80	24 39 10.4	74.43
5 2 5.40	26 55 28.5	17.07	16	7 13 26.36	24 31 43.8	76.13
5 4 51.21	26 57 10.9	15.05	17	7 16 4.54	24 24 7.0	77.80
5 7 37.14	26 58 41.2	13.03	18	7 18 42.32	24 16 20.2	79.47
5 10 23.18	26 59 59.4	11.00	19	7 21 19.71	24 8 23.4	81.10
5 13 9.31	27 1 5.4	8.97	20	7 23 56.69	24 0 16.8	82.73
5 15 55.52	27 1 59.2	6.93	21	7 26 33.26	23 52 0.4	84.33
5 18 41.80	27 2 40.8	4.90	22	7 29 9.42	23 43 34.4	85.93
5 21 28.14	N. 27 3 10.2	2.85	23	7 31 45.17	N. 23 34 58.8	87.50
SATURDAY 22.			MONDAY 24.			
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
5 24 14.52	N. 27 3 27.3	0.80	0	7 34 20.49	N. 23 26 13.8	89.05
5 27 0.93	27 3 32.1	1.23	1	7 36 55.38	23 17 19.5	90.60
5 29 47.36	27 3 24.7	3.28	2	7 39 29.84	23 8 15.9	92.10
5 32 33.79	27 3 5.0	5.33	3	7 42 3.87	22 59 3.3	93.60
5 35 20.21	27 2 33.0	7.37	4	7 44 37.45	22 49 41.7	95.08
5 38 6.61	27 1 48.8	9.42	5	7 47 10.60	22 40 11.2	96.53
5 40 52.98	27 0 52.3	11.45	6	7 49 43.30	22 30 32.0	97.98
5 43 39.30	26 59 43.6	13.48	7	7 52 15.56	22 20 44.1	99.40
5 46 25.56	26 58 22.7	15.52	8	7 54 47.36	22 10 47.7	100.80
5 49 11.75	26 56 49.6	17.55	9	7 57 18.71	22 0 42.9	102.18
5 51 57.86	26 55 4.3	19.58	10	7 59 49.61	21 50 29.8	103.55
5 54 43.88	26 53 6.8	21.60	11	8 2 20.06	21 40 8.5	104.90
5 57 29.78	26 50 57.2	23.62	12	8 4 50.04	21 29 39.1	106.22
6 0 15.57	26 48 35.5	25.63	13	8 7 19.56	21 19 1.8	107.52
6 3 1.22	26 46 1.7	27.63	14	8 9 48.63	21 8 16.7	108.80
6 5 46.74	26 43 15.9	29.63	15	8 12 17.23	20 57 23.9	110.07
6 8 32.09	26 40 18.1	31.63	16	8 14 45.38	20 46 23.5	111.32
6 11 17.28	26 37 8.3	33.60	17	8 17 13.06	20 35 15.6	112.55
6 14 2.29	26 33 46.7	35.60	18	8 19 40.28	20 24 0.3	113.75
6 16 47.11	26 30 13.1	37.55	19	8 22 7.04	20 12 37.8	114.93
6 19 31.73	26 26 27.8	39.52	20	8 24 33.33	20 1 8.2	116.10
6 22 16.14	26 22 30.7	41.47	21	8 26 59.16	19 49 31.6	117.27
6 25 0.32	26 18 21.9	43.40	22	8 29 24.54	19 37 48.1	118.41
6 27 44.28	26 14 1.5	45.33	23	8 31 49.45	19 25 57.8	119.52
6 30 27.98	N. 26 9 29.5		24	8 34 13.90	N. 19 14 0.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 25.				THURSDAY 27.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	8 34 13.90	N. 19 14 0.8	120.58	0	10 21 41.90	N. 8 6 19.8	15
1	8 36 37.90	19 1 57.3	121.65	1	10 23 47.75	7 51 9.7	15
2	8 39 1.44	18 49 47.4	122.70	2	10 25 53.33	7 35 58.0	15
3	8 41 24.52	18 37 31.2	123.73	3	10 27 58.66	7 20 44.9	15
4	8 43 47.16	18 25 8.8	124.75	4	10 30 3.73	7 5 30.5	15
5	8 46 9.34	18 12 40.3	125.73	5	10 32 8.55	6 50 14.8	15
6	8 48 31.07	18 0 5.9	126.72	6	10 34 13.12	6 34 57.9	15
7	8 50 52.35	17 47 25.6	127.67	7	10 36 17.46	6 19 39.9	15
8	8 53 13.19	17 34 39.6	128.60	8	10 38 21.56	6 4 20.8	15
9	8 55 33.59	17 21 48.0	129.53	9	10 40 25.43	5 49 0.9	15
10	8 57 53.55	17 8 50.8	130.42	10	10 42 29.08	5 33 40.0	15
11	9 0 13.07	16 55 48.3	131.30	11	10 44 32.52	5 18 18.4	15
12	9 2 32.15	16 42 40.5	132.17	12	10 46 35.74	5 2 56.1	15
13	9 4 50.80	16 29 27.5	133.00	13	10 48 38.75	4 47 33.2	15
14	9 7 9.03	16 16 9.5	133.83	14	10 50 41.56	4 32 9.7	15
15	9 9 26.83	16 2 46.5	134.63	15	10 52 44.18	4 16 45.8	15
16	9 11 44.21	15 49 18.7	135.42	16	10 54 46.60	4 1 21.4	15
17	9 14 1.17	15 35 46.2	136.20	17	10 56 48.84	3 45 56.8	15
18	9 16 17.71	15 22 9.0	136.93	18	10 58 50.90	3 30 31.9	15
19	9 18 33.84	15 8 27.4	137.68	19	11 0 52.78	3 15 6.8	15
20	9 20 49.57	14 54 41.3	138.38	20	11 2 54.50	2 59 41.7	15
21	9 23 4.89	14 40 51.0	139.10	21	11 4 56.04	2 44 16.5	15
22	9 25 19.81	14 26 56.4	139.77	22	11 6 57.43	2 28 51.4	15
23	9 27 34.34	N. 14 12 57.8	140.43	23	11 8 58.67	N. 2 13 26.4	15
WEDNESDAY 26.				FRIDAY 28.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 29 48.47	N. 13 58 55.2	141.08	0	11 10 59.75	N. 1 58 1.6	15
1	9 32 2.22	13 44 48.7	141.70	1	11 13 0.69	1 42 37.1	15
2	9 34 15.58	13 30 38.5	142.32	2	11 15 1.50	1 27 12.9	15
3	9 36 28.56	13 16 24.6	142.92	3	11 17 2.17	1 11 49.1	15
4	9 38 41.17	13 2 7.1	143.50	4	11 19 2.71	0 56 25.8	15
5	9 40 53.40	12 47 46.1	144.05	5	11 21 3.13	0 41 3.1	15
6	9 43 5.28	12 33 21.8	144.58	6	11 23 3.44	0 25 40.9	15
7	9 45 16.79	12 18 54.3	145.12	7	11 25 3.63	N. 0 10 19.5	15
8	9 47 27.94	12 4 23.6	145.63	8	11 27 3.72	S. 0 5 1.2	15
9	9 49 38.74	11 49 49.8	146.13	9	11 29 3.70	0 20 21.1	15
10	9 51 49.20	11 35 13.0	146.60	10	11 31 3.58	0 35 40.0	15
11	9 53 59.31	11 20 33.4	147.07	11	11 33 3.38	0 50 58.0	15
12	9 56 9.08	11 5 51.0	147.50	12	11 35 3.08	1 6 15.0	15
13	9 58 18.52	10 51 6.0	147.88	13	11 37 2.71	1 21 30.9	15
14	10 0 27.64	10 36 18.3	148.21	14	11 39 2.25	1 36 45.6	15
15	10 2 36.43	10 21 28.2	148.75	15	11 41 1.73	1 51 59.1	15
16	10 4 44.91	10 6 35.7	149.15	16	11 43 1.14	2 7 11.3	15
17	10 6 53.07	9 51 40.8	149.50	17	11 45 0.49	2 22 22.2	15
18	10 9 0.93	9 36 43.8	149.87	18	11 46 59.78	2 37 31.6	15
19	10 11 8.48	9 21 44.6	150.20	19	11 48 59.02	2 52 39.5	15
20	10 13 15.74	9 6 43.4	150.53	20	11 50 58.21	3 7 45.9	15
21	10 15 22.71	8 51 40.2	150.85	21	11 52 57.36	3 22 50.7	15
22	10 17 29.39	8 36 35.1	151.13	22	11 54 56.47	3 37 53.8	15
23	10 19 35.78	8 21 28.3	151.42	23	11 56 55.55	3 52 55.2	14
24	10 21 41.90	N. 8 6 19.8		24	11 58 54.60	S. 4 7 54.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 29.				MONDAY 31.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	11 58 54.60	S. 4 7 54.8	149.62	0	13 35 0.11	S. 15 12 31.4	123.00
1	12 0 53.63	4 22 52.5	149.30	1	13 37 2.81	15 24 49.4	122.22
2	12 2 52.64	4 37 48.3	148.97	2	13 39 5.67	15 37 2.7	121.42
3	12 4 51.63	4 52 42.1	148.63	3	13 41 8.68	15 49 11.2	120.62
4	12 6 50.62	5 7 33.9	148.27	4	13 43 11.86	16 1 14.9	119.78
5	12 8 49.60	5 22 23.5	147.92	5	13 45 15.20	16 13 13.6	118.97
6	12 10 48.58	5 37 11.0	147.53	6	13 47 18.71	16 25 7.4	118.13
7	12 12 47.56	5 51 56.2	147.17	7	13 49 22.38	16 36 56.2	117.27
8	12 14 46.55	6 6 39.2	146.75	8	13 51 26.23	16 48 39.8	116.43
9	12 16 45.56	6 21 19.7	146.37	9	13 53 30.24	17 0 18.4	115.57
10	12 18 44.59	6 35 57.9	145.95	10	13 55 34.43	17 11 51.8	114.68
11	12 20 43.63	6 50 33.6	145.52	11	13 57 38.79	17 23 19.9	113.80
12	12 22 42.71	7 5 6.7	145.08	12	13 59 43.33	17 34 42.7	112.92
13	12 24 41.82	7 19 37.2	144.65	13	14 1 48.05	17 46 0.2	112.00
14	12 26 40.96	7 34 5.1	144.18	14	14 3 52.94	17 57 12.2	111.10
15	12 28 40.13	7 48 30.2	143.73	15	14 5 58.02	18 8 18.8	110.18
16	12 30 39.36	8 2 52.6	143.25	16	14 8 3.27	18 19 19.9	109.25
17	12 32 38.63	8 17 12.1	142.77	17	14 10 8.71	18 30 15.4	108.32
18	12 34 37.95	8 31 28.7	142.28	18	14 12 14.34	18 41 5.3	107.37
19	12 36 37.33	8 45 42.4	141.78	19	14 14 20.15	18 51 49.5	106.42
20	12 38 36.76	8 59 53.1	141.27	20	14 16 26.14	19 2 28.0	105.45
21	12 40 36.26	9 14 0.7	140.73	21	14 18 32.32	19 13 0.7	104.48
22	12 42 35.83	9 28 5.1	140.22	22	14 20 38.70	19 23 27.6	103.50
23	12 44 35.48	S. 9 42 6.4	139.67	23	14 22 45.26	S. 19 33 48.6	102.52
SUNDAY 30.				TUESDAY, JUNE 1.			
0	12 46 35.19	S. 9 56 4.4	139.12	0	14 24 52.00	S. 19 44 3.7	
1	12 48 34.99	10 9 59.1	138.57				
2	12 50 34.86	10 23 50.5	137.98				
3	12 52 34.83	10 37 38.4	137.42				
4	12 54 34.88	10 51 22.9	136.82				
5	12 56 35.03	11 5 3.8	136.22				
6	12 58 35.28	11 18 41.1	135.62				
7	13 0 35.63	11 32 14.8	134.98				
8	13 2 36.08	11 45 44.7	134.37				
9	13 4 36.64	11 59 10.9	133.72				
10	13 6 37.31	12 12 33.2	133.08				
11	13 8 38.09	12 25 51.7	132.42				
12	13 10 39.00	12 39 6.2	131.75				
13	13 12 40.03	12 52 16.7	131.07				
14	13 14 41.17	13 5 23.1	130.38				
15	13 16 42.45	13 18 25.4	129.68				
16	13 18 43.85	13 31 23.5	128.98				
17	13 20 45.39	13 44 17.4	128.27				
18	13 22 47.07	13 57 7.0	127.55				
19	13 24 48.88	14 9 52.3	126.80				
20	13 26 50.83	14 22 33.1	126.07				
21	13 28 52.93	14 35 9.5	125.32				
22	13 30 55.17	14 47 41.4	124.55				
23	13 32 57.57	15 0 8.7	123.78				
24	13 35 0.11	S. 15 12 31.4					

PHASES OF THE MOON.

○ Full Moon - - ^d 5 ^h 2 ^m 5.4
 ☾ Last Quarter - 13 4 21.1
 ● New Moon - - 20 11 43.8
 ☽ First Quarter - 27 3 9.6

☾ Apogee - - - - - ^d 10 ^h 15
 ☾ Perigee - - - - - 22 12

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .	P.L. of diff.
1	SUN W.	130 2 7	2835	131 35 49	2845	133 9 19	2855	134 42 36	2865
	Pollux W.	60 39 22	2502	62 20 33	2507	64 1 36	2515	65 42 28	2525
	Regulus W.	23 37 46	2492	25 19 10	2499	27 0 25	2506	28 41 30	2512
	Mars E.	32 13 22	2460	30 31 12	2477	28 49 27	2495	27 8 7	2485
	Antares E.	76 21 40	2483	74 40 3	2490	72 58 35	2498	71 17 19	2485
	Jupiter E.	87 54 7	2473	86 12 16	2481	84 30 36	2489	82 49 7	2478
	Saturn E.	101 48 23	2485	100 6 49	2493	98 25 26	2500	96 44 13	2498
2	Pollux W.	74 4 14	2560	75 44 4	2568	77 23 43	2576	79 3 11	2585
	Regulus W.	37 4 30	2550	38 44 34	2556	40 24 29	2565	42 4 12	2572
	Antares E.	62 53 37	2545	61 13 26	2552	59 33 25	2561	57 53 36	2568
	Jupiter E.	74 24 22	2535	72 43 58	2544	71 3 46	2553	69 23 46	2560
	Saturn E.	88 20 49	2547	86 40 41	2555	85 0 44	2563	83 20 58	2570
3	Pollux W.	87 17 41	2627	88 56 0	2635	90 34 8	2644	92 12 3	2652
	Regulus W.	50 20 0	2614	51 58 36	2624	53 36 59	2632	55 15 11	2640
	Antares E.	49 37 24	2612	47 58 45	2621	46 20 18	2629	44 42 2	2636
	Jupiter E.	61 6 42	2605	59 27 54	2614	57 49 18	2624	56 10 55	2632
	Saturn E.	75 5 2	2614	73 26 26	2623	71 48 2	2632	70 9 50	2640
4	Regulus W.	63 23 9	2686	65 0 8	2695	66 36 55	2705	68 13 29	2712
	Antares E.	36 33 48	2684	34 56 46	2693	33 19 56	2702	31 43 19	2710
	Jupiter E.	48 2 22	2684	46 25 20	2695	44 48 33	2705	43 12 0	2712
	Saturn E.	62 2 0	2698	60 25 4	2698	58 48 21	2708	57 11 51	2715
	α Aquilæ E.	91 14 6	3326	89 50 25	3336	88 26 55	3345	87 3 36	3352
5	Regulus W.	76 13 11	2761	77 48 30	2771	79 23 36	2781	80 58 29	2791
	Mars W.	22 49 40	2800	24 24 8	2794	25 58 44	2790	27 33 25	2785
	Spica ♀ W.	22 16 10	2789	23 50 53	2795	25 25 27	2802	26 59 53	2808
	Jupiter E.	35 13 10	2778	33 38 13	2791	32 3 34	2806	30 29 14	2812
	Saturn E.	49 12 45	2769	47 37 37	2780	46 2 43	2791	44 28 3	2802
	α Aquilæ E.	80 10 37	3427	78 48 51	3444	77 27 24	3462	76 6 17	3478
6	Regulus W.	88 49 46	2838	90 23 24	2848	91 56 50	2858	93 30 3	2868
	Mars W.	35 26 41	2802	37 1 6	2807	38 35 25	2812	40 9 37	2818
	Spica ♀ W.	34 49 29	2849	36 22 53	2859	37 56 5	2867	39 29 6	2872
	Saturn E.	36 38 24	2859	35 5 13	2873	33 32 19	2884	31 59 40	2892
	Fomalhaut E.	93 5 16	3184	91 38 48	3194	90 12 31	3204	88 46 26	3212
7	Mars W.	47 58 29	2853	49 31 48	2861	51 4 57	2867	52 37 58	2872
	Spica ♀ W.	47 11 25	2919	48 43 20	2928	50 15 4	2935	51 46 38	2942
	Fomalhaut E.	81 39 3	3269	80 14 15	3281	78 49 41	3293	77 25 21	3302
	α Pegasi E.	103 12 30	3096	101 44 16	3104	100 16 11	3110	98 48 14	3118
8	Mars W.	60 20 40	2911	61 52 45	2918	63 24 41	2924	64 56 29	2932
	Spica ♀ W.	59 21 54	2982	60 52 29	2990	62 22 54	2997	63 53 11	3002
	Fomalhaut E.	70 27 39	3377	69 4 56	3393	67 42 32	3409	66 20 25	3418
	α Pegasi E.	91 30 39	3153	90 3 34	3162	88 36 39	3168	87 9 52	3175
9	Mars W.	72 33 28	2960	74 4 31	2966	75 35 26	2971	77 6 15	2978
	Spica ♀ W.	71 22 33	3034	72 52 4	3039	74 21 29	3044	75 50 47	3048
	Antares W.	25 30 33	3029	27 0 10	3034	28 29 41	3039	29 59 5	3042
	Fomalhaut E.	59 34 52	3520	58 14 50	3542	56 55 12	3564	55 35 58	3572
	α Pegasi E.	79 58 7	3212	78 32 12	3220	77 6 26	3226	75 40 48	3232

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
1	SUN W.	136° 15' 40"	2875	137° 48' 31"	2885	139° 21' 9"	2896	140° 53' 33"	2908
	Pollux W.	67° 23' 9"	2530	69° 3' 41"	2537	70° 44' 3"	2545	72° 24' 14"	2553
	Regulus W.	30° 22' 26"	2520	32° 3' 12"	2526	33° 43' 49"	2535	35° 24' 14"	2541
	Mars E.	25° 27' 16"	2539	23° 46' 57"	2566	22° 7' 15"	2597	20° 28' 16"	2635
	Antares E.	69° 36' 12"	2513	67° 55' 17"	2521	66° 14' 33"	2528	64° 33' 59"	2537
	Jupiter E.	81° 7' 48"	2504	79° 26' 40"	2512	77° 45' 43"	2520	76° 4' 57"	2528
	Saturn E.	95° 3' 11"	2516	93° 22' 20"	2523	91° 41' 39"	2531	90° 1' 9"	2538
2	Pollux W.	80° 42' 28"	2593	82° 21' 33"	2601	84° 0' 27"	2609	85° 39' 10"	2618
	Regulus W.	43° 43' 44"	2581	45° 23' 5"	2589	47° 2' 15"	2598	48° 41' 13"	2606
	Antares E.	56° 13' 59"	2577	54° 34' 33"	2585	52° 55' 18"	2595	51° 16' 16"	2602
	Jupiter E.	67° 43' 57"	2569	66° 4' 20"	2578	64° 24' 55"	2587	62° 45' 42"	2596
	Saturn E.	81° 41' 23"	2580	80° 2' 0"	2588	78° 22' 49"	2596	76° 43' 49"	2606
3	Pollux W.	93° 49' 47"	2662	95° 27' 18"	2672	97° 4' 36"	2680	98° 41' 43"	2690
	Regulus W.	56° 53' 11"	2649	58° 30' 59"	2659	60° 8' 34"	2667	61° 45' 58"	2677
	Antares E.	43° 3' 59"	2647	41° 26' 8"	2656	39° 48' 29"	2665	38° 11' 2"	2675
	Jupiter E.	54° 32' 46"	2643	52° 54' 50"	2653	51° 17' 7"	2663	49° 39' 38"	2673
	Saturn E.	68° 31' 51"	2650	66° 54' 4"	2660	65° 16' 30"	2669	63° 39' 9"	2678
4	Regulus W.	69° 49' 50"	2723	71° 26' 0"	2733	73° 1' 56"	2742	74° 37' 40"	2752
	Antares E.	30° 6' 55"	2721	28° 30' 43"	2731	26° 54' 44"	2741	25° 18' 58"	2750
	Jupiter E.	41° 35' 43"	2729	39° 59' 41"	2740	38° 23' 54"	2753	36° 48' 24"	2765
	Saturn E.	55° 35' 35"	2728	53° 59' 32"	2738	52° 23' 42"	2749	50° 48' 7"	2759
	α Aquilæ E.	85° 40' 30"	3370	84° 17' 39"	3382	82° 55' 2"	3396	81° 32' 41"	3411
5	Regulus W.	82° 33' 9"	2800	84° 7' 37"	2809	85° 41' 53"	2820	87° 15' 55"	2829
	Mars W.	29° 8' 9"	2789	30° 42' 52"	2791	32° 17' 32"	2793	33° 52' 9"	2797
	Spica ηγ W.	28° 34' 9"	2817	30° 8' 15"	2825	31° 42' 10"	2833	33° 15' 55"	2842
	Jupiter E.	28° 55' 14"	2837	27° 21' 34"	2855	25° 48' 17"	2873	24° 15' 23"	2894
	Saturn E.	42° 53' 38"	2813	41° 19' 27"	2825	39° 45' 31"	2836	38° 11' 50"	2848
	α Aquilæ E.	74° 45' 32"	3501	73° 25' 9"	3522	72° 5' 9"	3545	70° 45' 34"	3568
6	Regulus W.	95° 3' 5"	2876	96° 35' 54"	2885	98° 8' 32"	2894	99° 40' 58"	2904
	Mars W.	41° 43' 41"	2825	43° 17' 36"	2832	44° 51' 23"	2839	46° 25' 0"	2845
	Spica ηγ W.	41° 1' 56"	2884	42° 34' 35"	2893	44° 7' 3"	2902	45° 39' 20"	2911
	Saturn E.	30° 27' 19"	2912	28° 55' 15"	2927	27° 23' 30"	2942	25° 52' 4"	2958
	Fomalhaut E.	87° 20' 32"	3223	85° 54' 50"	3234	84° 29' 21"	3246	83° 4' 6"	3256
7	Mars W.	54° 10' 49"	2883	55° 43' 30"	2890	57° 16' 2"	2896	58° 48' 26"	2904
	Spica ηγ W.	53° 18' 1"	2952	54° 49' 14"	2960	56° 20' 17"	2967	57° 51' 11"	2976
	Fomalhaut E.	76° 1' 17"	3319	74° 37' 28"	3333	73° 13' 55"	3347	71° 50' 38"	3363
	α Pegasi E.	97° 20' 26"	3124	95° 52' 46"	3132	94° 25' 15"	3139	92° 57' 53"	3146
8	Mars W.	66° 28' 9"	2938	67° 59' 40"	2944	69° 31' 3"	2950	71° 2' 19"	2955
	Spica ηγ W.	65° 23' 19"	3010	66° 53' 19"	3017	68° 23' 11"	3022	69° 52' 56"	3029
	Fomalhaut E.	64° 58' 38"	3443	63° 37' 10"	3462	62° 16' 3"	3480	60° 55' 17"	3499
	α Pegasi E.	85° 43' 13"	3183	84° 16' 44"	3190	82° 50' 23"	3198	81° 24' 11"	3204
9	Mars W.	78° 36' 59"	2980	80° 7' 36"	2984	81° 38' 9"	2988	83° 8' 37"	2991
	Spica ηγ W.	77° 20' 0"	3053	78° 49' 7"	3056	80° 18' 10"	3060	81° 47' 9"	3063
	Antares W.	31° 28' 24"	3048	32° 57' 38"	3052	34° 26' 47"	3056	35° 55' 51"	3058
	Fomalhaut E.	54° 17' 11"	3613	52° 58' 51"	3639	51° 40' 59"	3667	50° 23' 37"	3698
	α Pegasi E.	74° 15' 18"	3240	72° 49' 56"	3241	71° 24' 54"	3254	69° 59' 38"	3261

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .	P. L. of diff.
9	SUN E.	135° 27' 41"	3430	134° 5' 58"	3433	132° 44' 19"	3438	131° 22' 45"	3443
10	Mars W.	84 39 1	2994	86 9 21	2997	87 39 37	2999	89 9 51	3001
	Antares W.	37 24 52	3061	38 53 49	3064	40 22 43	3066	41 51 35	3068
	Jupiter W.	27 3 7	3096	28 31 21	3092	29 59 40	3088	31 28 4	3084
	Fomalhaut E.	49 6 48	3730	47 50 33	3765	46 34 55	3802	45 19 55	3837
	α Pegasi E.	68 34 41	3268	67 9 52	3275	65 45 11	3282	64 20 39	3289
	SUN E.	124 35 51	3455	123 14 37	3457	121 53 25	3459	120 32 15	3461
11	Mars W.	96 40 29	3006	98 10 34	3006	99 40 39	3005	101 10 46	3004
	Antares W.	49 15 32	3069	50 44 19	3069	52 13 7	3067	53 41 57	3066
	Jupiter W.	38 50 57	3070	40 19 43	3068	41 48 32	3064	43 17 26	3061
	Saturn W.	24 30 49	3121	25 58 33	3115	27 26 24	3107	28 54 25	3100
	α Pegasi E.	57 20 3	3326	55 56 22	3335	54 32 51	3343	53 9 29	3351
	SUN E.	113 46 35	3460	112 25 26	3458	111 4 15	3456	109 43 2	3454
12	Antares W.	61 6 50	3049	62 36 2	3045	64 5 19	3040	65 34 42	3036
	Jupiter W.	50 43 8	3037	52 12 35	3032	53 42 8	3026	55 11 48	3021
	Saturn W.	36 16 32	3067	37 45 22	3061	39 14 20	3053	40 43 27	3047
	SUN E.	102 56 9	3435	101 34 32	3431	100 12 50	3425	98 51 2	3421
13	Antares W.	73 3 31	3001	74 33 43	2992	76 4 6	2983	77 34 40	2974
	Jupiter W.	62 42 19	2982	64 12 54	2974	65 43 40	2964	67 14 38	2955
	Saturn W.	48 11 23	3006	49 41 29	2996	51 11 47	2986	52 42 17	2977
	SUN E.	92 0 4	3381	90 37 26	3372	89 14 37	3363	87 51 38	3354
14	Antares W.	85 10 33	2922	86 42 24	2910	88 14 30	2898	89 46 52	2886
	Jupiter W.	74 52 38	2901	76 24 56	2889	77 57 29	2877	79 30 18	2865
	Saturn W.	60 18 5	2921	61 49 57	2909	63 22 5	2896	64 54 29	2884
	SUN E.	80 53 36	3296	79 29 20	3283	78 4 48	3270	76 40 2	3257
15	Jupiter W.	87 18 37	2795	88 53 11	2781	90 28 4	2766	92 3 16	2751
	Saturn W.	72 40 47	2814	74 14 57	2798	75 49 27	2784	77 24 16	2770
	α Aquilæ W.	50 34 39	4000	51 46 19	3934	52 59 4	3873	54 12 51	3812
	SUN E.	69 32 1	3184	68 5 33	3168	66 38 46	3152	65 11 39	3136
16	Jupiter W.	100 4 26	2672	101 41 44	2656	103 19 23	2639	104 57 25	2623
	Saturn W.	85 23 34	2688	87 0 30	2671	88 37 49	2655	90 15 30	2639
	α Aquilæ W.	60 35 53	3566	61 55 4	3524	63 15 2	3483	64 35 45	3441
	SUN E.	57 51 10	3053	56 22 3	3035	54 52 34	3017	53 22 43	3000
17	Saturn W.	98 29 42	2552	100 9 43	2535	101 50 8	2518	103 30 56	2501
	α Aquilæ W.	71 29 47	3272	72 54 31	3242	74 19 51	3214	75 45 44	3186
	Fomalhaut W.	45 57 41	3275	47 22 22	3220	48 48 8	3168	50 14 56	3122
	SUN E.	45 48 6	2915	44 16 6	2897	42 43 43	2881	41 11 0	2866
18	α Aquilæ W.	83 3 0	3066	84 31 51	3045	86 1 8	3026	87 30 48	3000
	Fomalhaut W.	57 42 29	2918	59 14 25	2884	60 47 4	2852	62 20 25	2822
	α Pegasi W.	35 17 31	2972	36 48 19	2913	38 20 21	2859	39 53 33	2811
	SUN E.	33 22 14	2789	31 47 32	2776	30 12 33	2765	28 37 19	2753
22	SUN W.	21 12 1	2497	22 53 18	2479	24 35 1	2467	26 17 0	2455
	Pollux E.	29 0 33	2165	27 11 13	2175	25 22 7	2186	23 33 18	2197
	Regulus E.	65 37 31	2096	63 46 26	2095	61 55 19	2095	60 4 12	2095
	Mars E.	116 16 45	2089	114 25 29	2088	112 34 12	2088	110 42 55	2088

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
9	SUN E.	130 1 15	3445	128 39 49	3447	127 18 26	3451	125 57 7	3454
10	Mars W.	90 40 2	3004	92 10 10	3005	93 40 17	3006	95 10 23	3006
	Antares W.	43 20 24	3069	44 49 12	3069	46 17 59	3070	47 46 45	3069
	Jupiter W.	32 56 31	3083	34 25 2	3079	35 53 37	3077	37 22 15	3073
	Fomalhaut E.	44 5 37	3887	42 52 4	3935	41 39 20	3988	40 27 29	4046
	α Pegasi E.	62 56 15	3296	61 31 59	3303	60 7 51	3312	58 43 53	3319
	SUN E.	119 11 6	3461	117 49 58	3462	116 28 51	3461	115 7 43	3461
11	Mars W.	102 40 53	3002	104 11 3	3001	105 41 15	2999	107 11 29	2996
	Antares W.	55 10 49	3063	56 39 44	3061	58 8 42	3057	59 37 44	3054
	Jupiter W.	44 46 24	3056	46 15 27	3052	47 44 35	3048	49 13 49	3043
	Saturn W.	30 22 35	3094	31 50 52	3087	33 19 18	3081	34 47 51	3074
	α Pegasi E.	51 46 18	3362	50 23 18	3372	49 0 30	3384	47 37 55	3396
	SUN E.	108 21 47	3451	107 0 28	3448	105 39 6	3445	104 17 40	3440
12	Antares W.	67 4 12	3029	68 33 49	3022	70 3 34	3015	71 33 28	3008
	Jupiter W.	56 41 36	3013	58 11 33	3006	59 41 39	2998	61 11 54	2990
	Saturn W.	42 12 43	3039	43 42 8	3031	45 11 42	3022	46 41 27	3014
	SUN E.	97 29 6	3412	96 7 3	3406	94 44 53	3397	93 22 33	3389
13	Antares W.	79 5 25	2964	80 36 23	2954	82 7 33	2944	83 38 56	2933
	Jupiter W.	68 45 47	2944	70 17 10	2934	71 48 46	2924	73 20 35	2913
	Saturn W.	54 13 0	2966	55 43 55	2955	57 15 4	2944	58 46 27	2932
	SUN E.	86 28 26	3342	85 5 3	3331	83 41 28	3319	82 17 39	3307
14	Antares W.	91 19 30	2873	92 52 24	2859	94 25 36	2845	95 59 5	2831
	Jupiter W.	81 3 23	2851	82 36 45	2837	84 10 25	2824	85 44 22	2810
	Saturn W.	66 27 9	2870	68 0 7	2856	69 33 22	2842	71 6 55	2828
	SUN E.	75 14 59	3242	73 49 40	3229	72 24 5	3214	70 58 12	3199
15	Jupiter W.	93 38 48	2735	95 14 41	2720	96 50 55	2704	98 27 30	2688
	Saturn W.	78 59 25	2752	80 34 56	2737	82 10 47	2720	83 47 0	2705
	α Aquilæ W.	55 27 37	3760	56 43 21	3708	58 0 0	3659	59 17 31	3611
	SUN E.	63 44 14	3120	62 16 29	3103	60 48 23	3087	59 19 57	3069
6	Jupiter W.	106 35 50	2606	108 14 37	2589	109 53 47	2572	111 33 20	2556
	Saturn W.	91 53 34	2621	93 32 1	2603	95 10 52	2587	96 50 5	2569
	α Aquilæ W.	65 57 12	3407	67 19 21	3371	68 42 11	3337	70 5 40	3304
	SUN E.	51 52 31	2984	50 21 58	2966	48 51 2	2949	47 19 45	2931
7	Saturn W.	105 12 8	2484	106 53 44	2467	108 35 44	2450	110 18 7	2434
	α Aquilæ W.	77 12 11	3159	78 39 9	3134	80 6 37	3109	81 34 35	3087
	Fomalhaut W.	51 42 41	3074	53 11 22	3032	54 40 55	2992	56 11 18	2954
	SUN E.	39 37 55	2848	38 4 29	2832	36 30 43	2818	34 56 38	2803
8	α Aquilæ W.	89 0 50	2992	90 31 13	2977	92 1 55	2962	93 32 55	2949
	Fomalhaut W.	63 54 25	2792	65 29 3	2765	67 4 17	2738	68 40 6	2714
	α Pegasi W.	41 27 48	2764	43 3 3	2723	44 39 13	2684	46 16 13	2649
	SUN E.	27 1 50	2744	25 26 9	2739	23 50 22	2735	22 14 29	2733
22	SUN W.	27 59 13	2450	29 41 36	2445	31 24 6	2442	33 6 41	2440
	Pollux E.	21 44 52	2221	19 56 55	2248	18 9 39	2283	16 23 14	2332
	Regulus E.	58 13 5	2096	56 22			2099	52 39 57	2102
	Mars E.	108 51 37	2088	107				1 17 51	2095

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
23	SUN W.	34 49 19	2439	36 31 58	2438	38 14 38	2440	39 57 15	2441
	Regulus E.	50 49 1	2105	48 58 10	2109	47 7 25	2113	45 16 46	2111
	Mars E.	101 26 47	2098	99 35 45	2102	97 44 48	2107	95 53 59	2111
	Spica π E.	104 52 18	2107	103 1 29	2110	101 10 45	2114	99 20 7	2111
24	SUN W.	48 29 12	2465	50 11 15	2472	51 53 8	2479	53 34 51	2481
	Regulus E.	36 5 41	2150	34 15 58	2159	32 26 28	2167	30 37 11	2171
	Mars E.	86 41 57	2143	84 52 3	2151	83 2 22	2159	81 12 52	2161
	Spica π E.	90 8 58	2149	88 19 13	2155	86 29 38	2163	84 40 15	2171
25	SUN W.	62 0 38	2530	63 41 9	2540	65 21 27	2551	67 1 30	2561
	Pollux W.	16 13 21	2403	17 56 51	2378	19 40 57	2363	21 25 25	2351
	Mars E.	72 8 50	2216	70 20 47	2227	68 32 59	2237	66 45 27	2241
	Spica π E.	75 36 34	2217	73 48 32	2227	72 0 44	2237	70 13 12	2241
26	SUN W.	75 18 2	2617	76 56 34	2629	78 34 50	2641	80 12 49	2651
	Pollux W.	30 9 16	2356	31 53 54	2362	33 38 24	2368	35 22 45	2371
	Mars E.	57 52 4	2309	56 6 17	2321	54 20 48	2334	52 35 38	2341
	Spica π E.	61 19 26	2302	59 33 30	2314	57 47 51	2325	56 2 28	2331
	Jupiter E.	116 0 38	2277	114 14 4	2288	112 27 47	2298	110 41 45	2301
27	SUN W.	88 18 41	2715	89 55 1	2726	91 31 6	2740	93 6 53	2751
	Pollux W.	44 1 33	2419	45 44 40	2429	47 27 33	2440	49 10 11	2450
	Mars E.	43 54 33	2415	42 11 19	2429	40 28 25	2443	38 45 52	2451
	Spica π E.	47 19 55	2397	45 36 16	2410	43 52 55	2422	42 9 52	2431
	Jupiter E.	101 55 38	2365	100 11 13	2377	98 27 5	2389	96 43 14	2391
28	SUN W.	101 1 45	2815	102 35 54	2826	104 9 48	2838	105 43 26	2851
	Pollux W.	57 39 44	2502	59 20 54	2513	61 1 49	2524	62 42 29	2531
	Regulus W.	20 37 42	2498	22 18 58	2507	24 0 1	2516	25 40 52	2527
	Mars E.	30 18 34	2540	28 38 16	2558	26 58 24	2578	25 18 59	2600
	Antares E.	79 23 40	2480	77 41 59	2492	76 0 34	2504	74 19 26	2515
	Jupiter E.	88 7 58	2457	86 25 44	2467	84 43 45	2479	83 2 2	2490
	Saturn E.	103 32 26	2473	101 50 35	2485	100 9 0	2495	98 27 40	2507
29	SUN W.	113 27 39	2911	114 59 43	2923	116 31 33	2935	118 3 8	2947
	Pollux W.	71 2 11	2587	72 41 24	2597	74 20 23	2608	75 59 7	2618
	Regulus W.	34 1 37	2577	35 41 4	2587	37 20 17	2596	38 59 17	2607
	Antares E.	65 57 34	2569	64 17 57	2580	62 38 35	2591	60 59 27	2601
	Jupiter E.	74 37 23	2546	72 57 13	2556	71 17 18	2567	69 37 38	2578
	Saturn E.	90 4 52	2561	88 25 4	2571	86 45 29	2582	85 6 10	2592
30	SUN W.	125 37 22	3004	127 7 30	3015	128 37 24	3026	130 7 4	3038
	Pollux W.	84 9 24	2668	85 46 47	2678	87 23 57	2687	89 0 54	2697
	Regulus W.	47 10 50	2656	48 48 29	2666	50 25 55	2675	52 3 8	2684
	Antares E.	52 47 19	2652	51 9 34	2662	49 32 3	2672	47 54 45	2681
	Jupiter E.	61 22 57	2630	59 44 43	2641	58 6 44	2652	56 28 59	2662
	Saturn E.	76 53 3	2643	75 15 7	2654	73 37 25	2663	71 59 56	2673
31	Regulus W.	60 6 7	2731	61 42 6	2739	63 17 54	2748	64 53 30	2757
	Antares E.	39 51 23	2728	38 15 20	2736	36 39 28	2746	35 3 49	2753
	Jupiter E.	48 23 41	2714	46 47 19	2724	45 11 11	2734	43 35 16	2745
	Saturn E.	63 55 44	2721	62 19 32	2730	60 43 32	2740	59 7 45	2748
	α Aquilæ E.	94 8 14	3364	92 45 16	3371	91 22 26	3379	89 59 45	3387

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^b .	P.L. of diff.	XVIII ^b .	P.L. of diff.	XXI ^b .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
23	SUN W.	41 39 49	2446	43 22 19	2450	45 4 43	2454	46 47 1	2459
	Regulus E.	43 26 15	2124	41 35 52	2130	39 45 38	2136	37 55 34	2143
	Mars E.	94 3 16	2116	92 12 42	2122	90 22 17	2129	88 32 2	2136
	Spica π E.	97 29 37	2124	95 39 14	2129	93 48 59	2136	91 58 54	2141
24	SUN W.	55 16 24	2494	56 57 46	2502	58 38 56	2512	60 19 53	2520
	Regulus E.	28 48 7	2185	26 59 17	2196	25 10 43	2206	23 22 25	2218
	Mars E.	79 23 35	2177	77 34 33	2186	75 45 44	2196	73 57 10	2205
	Spica π E.	82 51 5	2180	81 2 7	2188	79 13 22	2198	77 24 51	2207
25	SUN W.	68 41 19	2572	70 20 53	2583	72 0 11	2594	73 39 15	2606
	Pollux W.	23 10 5	2349	24 54 53	2348	26 39 43	2349	28 24 31	2351
	Mars E.	64 58 12	2260	63 11 14	2272	61 24 33	2284	59 38 10	2296
	Spica π E.	68 25 55	2258	66 38 53	2269	64 52 8	2280	63 5 39	2291
26	SUN W.	81 50 32	2665	83 27 59	2677	85 5 10	2690	86 42 3	2702
	Pollux W.	37 6 55	2384	38 50 53	2392	40 34 40	2401	42 18 13	2410
	Mars E.	50 50 46	2360	49 6 14	2378	47 22 0	2387	45 38 7	2401
	Spica π E.	54 17 23	2349	52 32 35	2361	50 48 4	2373	49 3 51	2385
	Jupiter E.	108 55 59	2321	107 10 30	2331	105 25 16	2343	103 40 19	2354
27	SUN W.	94 42 24	2764	96 17 39	2777	97 52 37	2789	99 27 19	2802
	Pollux W.	50 52 35	2460	52 34 44	2470	54 16 39	2481	55 58 19	2492
	Mars E.	37 3 40	2474	35 21 50	2489	33 40 21	2506	31 59 16	2522
	Spica π E.	40 27 6	2446	38 44 37	2460	37 2 27	2472	35 20 34	2485
	Jupiter E.	94 59 38	2411	93 16 19	2422	91 33 16	2434	89 50 29	2445
28	SUN W.	107 16 47	2863	108 49 53	2875	110 22 44	2887	111 55 19	2899
	Pollux W.	64 22 55	2545	66 3 6	2556	67 43 2	2566	69 22 44	2577
	Regulus W.	27 21 28	2536	29 1 51	2546	30 42 0	2556	32 21 56	2566
	Mars E.	23 40 4	2624	22 1 42	2651	20 23 56	2681	18 46 51	2716
	Antares E.	72 38 33	2525	70 57 55	2537	69 17 33	2548	67 37 26	2559
	Jupiter E.	81 20 35	2502	79 39 24	2512	77 58 28	2524	76 17 48	2535
	Saturn E.	96 46 36	2518	95 5 48	2528	93 25 14	2540	91 44 56	2550
29	SUN W.	119 34 27	2958	121 5 33	2970	122 36 23	2981	124 7 0	2993
	Pollux W.	77 37 38	2628	79 15 55	2638	80 53 58	2648	82 31 48	2658
	Regulus W.	40 38 3	2617	42 16 35	2627	43 54 53	2637	45 32 58	2646
	Antares E.	59 20 34	2611	57 41 54	2622	56 3 29	2632	54 25 17	2642
	Jupiter E.	67 58 13	2588	66 19 2	2599	64 40 6	2610	63 1 24	2621
	Saturn E.	83 27 4	2603	81 48 13	2613	80 9 36	2624	78 31 13	2633
30	SUN W.	131 36 30	3049	133 5 42	3060	134 34 40	3071	136 3 25	3083
	Pollux W.	90 37 38	2706	92 14 10	2716	93 50 29	2726	95 26 35	2735
	Regulus W.	53 40 9	2694	55 16 57	2704	56 53 32	2712	58 29 56	2722
	Antares E.	46 17 39	2691	44 40 47	2699	43 4 6	2710	41 27 39	2718
	Jupiter E.	54 51 28	2672	53 14 11	2682	51 37 7	2693	50 0 17	2703
	Saturn E.	70 22 40	2682	68 45 36	2693	67 8 46	2702	65 32 9	2711
31	Regulus W.	66 28 54	2766	68 4 7	2774	69 39 9	2782	71 14 0	2791
	Antares E.	33 28 20	2763	31 53 4	2771	30 17 58	2780	28 43 4	2788
	Jupiter E.	41 59 36	2756	40 24 10	2766	38 48 58	2778	37 14 2	2789
	Saturn E.	57 32 9	2758	55 56 46	2767	54 21 35	2776	52 46 36	2786
	α Aquilæ E.	88 37			2407	85 52 46	3418	84 30 50	3430

CONFIGURATIONS OF THE SATELLITES OF JUPITER.

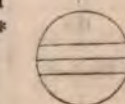
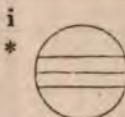
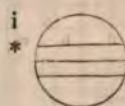
At 13^h 30^m, MEAN TIME.

Day of the Month.	<i>West.</i>				<i>East.</i>			
1		•3	2•	•1	○ ⁴			
2				•3•2	○ 1•		•4	
3	•1 ●				○	•3 ²		•4
4				1•	○		3•	•4 ○
5			•2		○	•1	3•	4•
6			1•		○	•2		4• ○
7			3•		○	1• 2•		4•
8		•3	2•	•1	○		4•	
9				•3•2	○ 4• 1•			
10			4•	•1	○	•3	•2	
11		4•			○		•3	○
12		4•		•2	○	•1	3•	
13		4•		1•	○	•2		
14		•4		3•	○	•1 2•		
15		•4	•3	2•	○			
16			•4	•3•2	○	1•		
17				•4	•1	○	•3	•2
18	1• ○				○	2• 4•	•3	
19			•2		○	•1	3• ⁴	
20	•2 ●			1•	○	3•		•4
21			3•		○	•1 2•		•4
22			•3	•12•	○			4•
23			•3	•2	○	1•		4•
24				•1	○	•3	•2	4•
25					○	1• 2•	4•	•3
26	•1 ●		2•	4•	○		3•	
27	•2 ●		4•	1•	○	3•		
28		4•		3•	○	•1	2•	
29		4•	•3	1• 2•	○			
30		•4		•3	•2	○	1•	
31	•3 ●	•4		•1	○	•2		

This Table represents, at 13^h 30^m after *Mean Noon* of each day of the month, the relative position of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a point is placed above or below the centre of the numeral circle (○) at the left or right hand of the page, denotes that the Satellite placed by the point is *on* the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *front* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

SATELLITE.	Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
I.	1	^h 17 ^m 27 ^s 9.5	^h 20 ^m 6 ^s 59.4	Im.
	3*	11 55 34.0	14 42 22.5	Im.
	5	6 24 6.4	9 17 53.6	Im.
	7	0 52 33.6	3 53 19.4	Im.
	8	19 21 7.2	22 28 51.7	Im.
	10*	13 49 33.3	17 4 16.4	Im.
	12	8 18 7.3	11 39 49.1	Im.
	14	2 46 36.0	6 15 16.5	Im.
	15	21 15 11.1	0 50 50.2	Im.
	17	15 43 38.9	19 26 16.6	Im.
	19	10 12 14.1	14 1 50.6	Im.
	21	4 40 44.7	8 37 19.8	Im.
	22	23 9 21.3	3 12 55.1	Im.
	24	17 37 50.8	21 48 23.2	Im.
	26*	12 6 27.5	16 23 58.6	Im.
	28	6 34 59.7	10 59 29.5	Im.
	30	1 3 38.2	5 35 6.6	Im.
	31	19 32 9.0	0 10 36.1	Im.
II.	2	15 50 36.3	18 34 6.8	Im.
	6	5 7 15.7	8 4 46.8	Im.
	9	18 23 56.3	21 35 27.9	Im.
	13	7 40 40.4	11 6 12.6	Im.
	16	20 57 25.4	0 36 58.1	Im.
	20	10 14 15.5	14 7 48.8	Im.
	23	23 31 5.7	3 38 39.6	Im.
	27*	12 48 1.1	17 9 35.6	Im.
	31	2 4 58.0	6 40 33.1	Im.
III.	2	18 40 43.9	21 24 42.4	Im.
	2	21 6 48.2	23 51 10.7	Em.
	9	22 38 38.3	1 50 51.8	Im.
	17	2 36 31.2	6 16 59.7	Im.
	24	6 34 37.7	10 43 21.1	Im.
	31*	10 33 24.5	15 10 23.1	Im.



Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time		Mean Equinoctial Time, adding 0 ^h 809526, Days.	From Mean Noon of January 1.	
	At Mean Midnight,				of			Day of the Year.	Fraction of the Year.
	Logarithm of				Transit				
					of the				
	A	B	C	D	First Point of Aries.				
					^h ^m ^s				
1	-1.1465	-1.1291	+9.7395	-0.8116	21 19 31.98	39	120	.329	
2	1.1399	1.1373	9.7417	0.8099	21 15 36.06	40	121	.331	
3	1.1331	1.1452	9.7440	0.8083	21 11 40.16	41	122	.334	
4	-1.1261	-1.1528	+9.7463	-0.8066	21 7 44.24	42	123	.337	
5	1.1188	1.1602	9.7486	0.8050	21 3 48.33	43	124	.339	
6	1.1113	1.1674	9.7509	0.8033	20 59 52.43	44	125	.342	
7	-1.1035	-1.1743	+9.7532	-0.8016	20 55 56.52	45	126	.345	
8	1.0955	1.1809	9.7555	0.8000	20 52 0.61	46	127	.348	
9	1.0872	1.1874	9.7578	0.7983	20 48 4.69	47	128	.350	
0	-1.0786	-1.1936	+9.7602	-0.7966	20 44 8.79	48	129	.353	
1	1.0697	1.1996	9.7625	0.7950	20 40 12.87	49	130	.356	
2	1.0605	1.2054	9.7649	0.7933	20 36 16.96	50	131	.359	
3	-1.0509	-1.2110	+9.7672	-0.7916	20 32 21.05	51	132	.361	
4	1.0411	1.2164	9.7696	0.7900	20 28 25.14	52	133	.364	
5	1.0309	1.2217	9.7720	0.7883	20 24 29.23	53	134	.367	
6	-1.0203	-1.2267	+9.7744	-0.7867	20 20 33.32	54	135	.370	
7	1.0093	1.2316	9.7767	0.7850	20 16 37.41	55	136	.372	
8	0.9980	1.2363	9.7791	0.7834	20 12 41.50	56	137	.375	
9	-0.9862	-1.2408	+9.7815	-0.7818	20 8 45.59	57	138	.378	
0	0.9739	1.2451	9.7839	0.7802	20 4 49.67	58	139	.381	
1	0.9612	1.2493	9.7864	0.7786	20 0 53.76	59	140	.383	
2	-0.9480	-1.2533	+9.7888	-0.7771	19 56 57.85	60	141	.386	
3	0.9342	1.2571	9.7912	0.7755	19 53 1.94	61	142	.389	
4	0.9199	1.2608	9.7936	0.7740	19 49 6.03	62	143	.392	
5	-0.9049	-1.2643	+9.7960	-0.7725	19 45 10.12	63	144	.394	
6	0.8893	1.2677	9.7984	0.7710	19 41 14.21	64	145	.397	
7	0.8730	1.2710	9.8008	0.7696	19 37 18.29	65	146	.400	
8	-0.8560	-1.2741	+9.8033	-0.7682	19 33 22.38	66	147	.402	
9	0.8381	1.2770	9.8057	0.7668	19 29 26.47	67	148	.405	
0	0.8193	1.2798	9.8081	0.7654	19 25 30.56	68	149	.408	
1	0.7996	1.2825	9.8105	0.7640	19 21 34.65	69	150	.411	
2	-0.7		9.8129	-0.7627	19 17 38.73	70	151	.413	

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be		Diff. for 1 ho
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		subt. from	added to Apparent Time.	
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^m ^s	^s	
Tues.	1	4 36 38.22	10.233	N.22 4 41.5	19.85	1 8.33	2 32.46	0.3	
Wed.	2	4 40 43.82	10.249	22 12 38.0	18.89	1 8.38	2 23.44	0.3	
Thur.	3	4 44 49.80	10.265	22 20 11.4	17.92	1 8.43	2 14.05	0.4	
Frid.	4	4 48 56.15	10.279	22 27 21.4	16.94	1 8.48	2 4.28	0.4	
Sat.	5	4 53 2.85	10.294	22 34 7.9	15.96	1 8.53	1 54.16	0.4	
Sun.	6	4 57 9.90	10.307	22 40 30.9	14.97	1 8.58	1 43.71	0.4	
Mon.	7	5 1 17.26	10.320	22 46 30.1	13.97	1 8.62	1 32.93	0.4	
Tues.	8	5 5 24.93	10.332	22 52 5.3	12.97	1 8.66	1 21.85	0.4	
Wed.	9	5 9 32.89	10.343	22 57 16.5	11.96	1 8.70	1 10.48	0.4	
Thur.	10	5 13 41.12	10.354	23 2 3.6	10.95	1 8.73	0 58.84	0.4	
Frid.	11	5 17 49.61	10.363	23 6 26.4	9.93	1 8.76	0 46.94	0.4	
Sat.	12	5 21 58.33	10.372	23 10 24.8	8.92	1 8.79	0 34.82	0.4	
Sun.	13	5 26 7.26	10.380	23 13 58.8	7.89	1 8.81	0 22.48	0.4	
Mon.	14	5 30 16.37	10.386	23 17 8.1	6.87	1 8.83	0 9.95	0.4	
Tues.	15	5 34 25.64	10.392	23 19 52.9	5.83	1 8.85	0 2.72	0.4	
Wed.	16	5 38 35.05	10.397	23 22 12.9	4.80	1 8.86	0 15.53	0.4	
Thur.	17	5 42 44.57	10.400	23 24 8.2	3.77	1 8.87	0 28.47	0.4	
Frid.	18	5 46 54.18	10.402	23 25 38.7	2.74	1 8.88	0 41.47	0.4	
Sat.	19	5 51 3.83	10.403	23 26 44.4	1.70	1 8.89	0 54.53	0.4	
Sun.	20	5 55 13.50	10.403	23 27 25.1	0.66	1 8.89	1 7.61	0.4	
Mon.	21	5 59 23.17	10.402	23 27 41.0	0.37	1 8.89	1 20.69	0.4	
Tues.	22	6 3 32.82	10.400	23 27 32.1	1.40	1 8.88	1 33.74	0.4	
Wed.	23	6 7 42.41	10.396	23 26 58.4	2.44	1 8.87	1 46.73	0.4	
Thur.	24	6 11 51.90	10.391	23 25 59.9	3.47	1 8.86	1 59.63	0.4	
Frid.	25	6 16 1.28	10.385	23 24 36.7	4.50	1 8.85	2 12.42	0.4	
Sat.	26	6 20 10.53	10.378	23 22 48.8	5.52	1 8.83	2 25.07	0.4	
Sun.	27	6 24 19.61	10.371	23 20 36.2	6.55	1 8.81	2 37.56	0.4	
Mon.	28	6 28 28.51	10.362	23 17 59.1	7.57	1 8.79	2 49.87	0.4	
Tues.	29	6 32 37.20	10.353	23 14 57.5	8.58	1 8.76	3 1.97	0.4	
Wed.	30	6 36 45.68	10.343	23 11 31.6	9.60	1 8.73	3 13.85	0.4	
Thur.	31	6 40 53.91		N.23 7 41.3		1 8.70	3 25.50		

* Mean Time of the Semidiameter passing may be found by subtracting 0^m19 from the *Sidere*

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be added to subt. from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
ues.	1	4 36 38.65	N.22 4 42.4	15 47.1	2 32.44	4 39 11.10
ed.	2	4 40 44.23	22 12 38.8	15 47.0	2 23.43	4 43 7.65
hur.	3	4 44 50.18	22 20 12.1	15 46.9	2 14.03	4 47 4.21
rid.	4	4 48 56.51	22 27 22.0	15 46.8	2 4.26	4 51 0.77
at.	5	4 53 3.18	22 34 8.5	15 46.6	1 54.15	4 54 57.33
un.	6	4 57 10.19	22 40 31.3	15 46.5	1 43.69	4 58 53.89
on.	7	5 1 17.53	22 46 30.4	15 46.4	1 32.91	5 2 50.44
ues.	8	5 5 25.17	22 52 5.6	15 46.3	1 21.84	5 6 47.00
ed.	9	5 9 33.09	22 57 16.8	15 46.2	1 10.47	5 10 43.56
hur.	10	5 13 41.29	23 2 3.8	15 46.1	0 58.83	5 14 40.12
rid.	11	5 17 49.74	23 6 26.5	15 46.0	0 46.94	5 18 36.68
at.	12	5 21 58.42	23 10 24.9	15 45.9	0 34.81	5 22 33.24
un.	13	5 26 7.32	23 13 58.8	15 45.8	0 22.47	5 26 29.79
on.	14	5 30 16.40	23 17 8.2	15 45.7	0 9.95	5 30 26.35
ues.	15	5 34 25.63	23 19 52.9	15 45.6	0 2.72	5 34 22.91
ed.	16	5 38 35.00	23 22 12.9	15 45.6	0 15.53	5 38 19.47
hur.	17	5 42 44.49	23 24 8.1	15 45.5	0 28.46	5 42 16.03
rid.	18	5 46 54.06	23 25 38.6	15 45.4	0 41.47	5 46 12.59
at.	19	5 51 3.67	23 26 44.3	15 45.4	0 54.52	5 50 9.15
un.	20	5 55 13.30	23 27 25.1	15 45.3	1 7.60	5 54 5.70
on.	21	5 59 22.94	23 27 41.0	15 45.3	1 20.68	5 58 2.26
ues.	22	6 3 32.55	23 27 32.1	15 45.2	1 33.73	6 1 58.82
ed.	23	6 7 42.10	23 26 58.4	15 45.2	1 46.72	6 5 55.38
hur.	24	6 11 51.55	23 26 0.0	15 45.2	1 59.62	6 9 51.94
rid.	25	6 16 0.90	23 24 36.8	15 45.2	2 12.40	6 13 48.50
at.	26	6 20 10.11	23 22 49.0	15 45.1	2 25.05	6 17 45.06
un.	27	6 24 19.15	23 20 36.5	15 45.1	2 37.54	6 21 41.61
on.	28	6 28 28.02	23 17 59.4	15 45.1	2 49.85	6 25 38.17
ues.	29	6 32 36.68	23 14 57.9	15 45.1	3 1.95	6 29 34.73
ed.	30	6 36 45.12	23 11 32.0	15 45.1	3 13.83	6 33 31.29
hur.	31	6 40 53.32	N.23 7 41.8	15 45.1	3 25.47	6 37 27.85

* The Semidiameter for Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Paral.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Mid.
1	70° 45' 7".6	S. 0° 75'	0.0062686	15° 11' 9"	15° 8' 0"	55° 46' 3"	55'
2	71° 42' 32".6	0° 76'	0.0063269	15° 4' 4"	15° 0' 9"	55° 18' 8"	55'
3	72° 39' 56".6	0° 74'	0.0063839	14° 57' 7"	14° 54' 8"	54° 54' 4"	54'
4	73° 37' 19".7	0° 69'	0.0064398	14° 52' 1"	14° 49' 7"	54° 33' 6"	54'
5	74° 34' 41".9	0° 60'	0.0064944	14° 47' 6"	14° 45' 9"	54° 17' 4"	54'
6	75° 32' 3' 4"	0° 50'	0.0065477	14° 44' 6"	14° 43' 8"	54° 6' 4"	54'
7	76° 29' 24".2	0° 39'	0.0065996	14° 43' 4"	14° 43' 4"	54° 1' 8"	54'
8	77° 26' 44".3	0° 26'	0.0066501	14° 44' 0"	14° 45' 1"	54° 4' 1"	54'
9	78° 24' 3' 9"	S. 0° 13'	0.0066991	14° 46' 9"	14° 49' 1"	54° 14' 5"	54'
10	79° 21' 23".0	0° 00'	0.0067464	14° 52' 1"	14° 55' 6"	54° 33' 6"	54'
11	80° 18' 41".8	N. 0° 11'	0.0067920	14° 59' 9"	15° 4' 7"	55° 2' 3"	55'
12	81° 16' 0' 2"	0° 21'	0.0068357	15° 10' 2"	15° 16' 3"	55° 40' 1"	56'
13	82° 13' 18".3	0° 28'	0.0068773	15° 22' 8"	15° 29' 9"	56° 26' 6"	56'
14	83° 10' 36".1	0° 32'	0.0069168	15° 37' 3"	15° 45' 0"	57° 19' 8"	57'
15	84° 7' 53".4	0° 34'	0.0069540	15° 52' 8"	16° 0' 5"	58° 16' 4"	58'
16	85° 5' 10".4	0° 33'	0.0069888	16° 7' 9"	16° 15' 0"	59° 12' 0"	59'
17	86° 2' 27".2	0° 29'	0.0070210	16° 21' 5"	16° 27' 1"	60° 1' 7"	60'
18	86° 59' 43".6	0° 22'	0.0070507	16° 31' 8"	16° 35' 4"	60° 39' 6"	60'
19	87° 56' 59".5	0° 12'	0.0070779	16° 37' 8"	16° 39' 0"	61° 1' 8"	61'
20	88° 54' 15".0	N. 0° 01'	0.0071024	16° 38' 9"	16° 37' 6"	61° 5' 7"	61'
21	89° 51' 30".1	S. 0° 12'	0.0071242	16° 35' 1"	16° 31' 4"	60° 51' 6"	60'
22	90° 48' 44".7	0° 26'	0.0071435	16° 26' 9"	16° 21' 6"	60° 21' 8"	60'
23	91° 45' 58".8	0° 40'	0.0071604	16° 15' 7"	16° 9' 4"	59° 40' 4"	59'
24	92° 43' 12".3	0° 52'	0.0071749	16° 2' 7"	15° 56' 0"	58° 53' 0"	58'
25	93° 40' 25".3	0° 64'	0.0071871	15° 49' 2"	15° 42' 6"	58° 3' 3"	57'
26	94° 37' 37".8	0° 73'	0.0071971	15° 36' 1"	15° 30' 0"	57° 15' 3"	56'
27	95° 34' 49".8	0° 81'	0.0072051	15° 24' 2"	15° 18' 7"	56° 31' 5"	56'
28	96° 32' 1' 4"	0° 85'	0.0072111	15° 13' 6"	15° 8' 8"	55° 52' 6"	55'
29	97° 29' 12".5	0° 86'	0.0072153	15° 4' 5"	15° 0' 6"	55° 19' 4"	55'
30	98° 26' 23".4	0° 84'	0.0072178	14° 57' 0"	14° 53' 9"	54° 51' 8"	54'
31	99° 23' 34".1	S. 0° 79'	0.0072187	14° 51' 1"	14° 48' 6"	54° 30' 0"	54'

MEAN TIME.

THE MOON'S

Day of the Week.	Day of the Month.	Longitude.		Latitude.		Age.	Meridian
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.
		^o ['] ["]	^o ['] ["]	^o ['] ["]	^o ['] ["]	^d	^h ^m
Tues.	1	220 19 30.6	226 38 4.9	S. 5 4 2.5	S. 5 2 33.8	11.5	10 5.5
Wed.	2	232 53 48.9	239 6 47.1	4 57 26.4	4 48 48.6	12.5	10 55.7
Thur.	3	245 17 4.0	251 24 44.2	4 36 50.0	4 21 43.5	13.5	11 47.3
Frid.	4	257 29 54.0	263 32 42.5	4 3 42.5	3 43 1.3	14.5	12 39.5
Sat.	5	269 33 19.1	275 31 57.3	3 19 56.3	2 54 44.0	15.5	13 30.8
Sun.	6	281 28 52.2	287 24 21.7	2 27 42.1	1 59 7.6	16.5	14 20.3
Mon.	7	293 18 46.6	299 12 31.6	1 29 18.7	S. 0 58 32.6	17.5	15 7.3
Tues.	8	305 6 2.9	310 59 50.1	S. 0 27 7.7	N. 0 4 38.2	18.5	15 51.8
Wed.	9	316 54 24.6	322 50 20.8	N. 0 36 27.1	1 8 1.5	19.5	16 34.3
Thur.	10	328 48 14.1	334 48 41.8	1 39 2.5	2 9 12.7	20.5	17 15.6
Frid.	11	340 52 22.2	346 59 53.5	2 38 11.8	3 5 41.4	21.5	17 56.7
Sat.	12	353 11 53.5	359 28 58.8	3 31 20.0	3 54 47.6	22.5	18 38.8
Sun.	13	5 51 43.2	12 20 37.0	4 15 41.9	4 33 40.9	23.5	19 23.3
Mon.	14	18 56 6.5	25 38 30.0	4 48 21.7	4 59 22.8	24.5	20 11.6
Tues.	15	32 27 59.6	39 24 36.3	5 6 22.6	5 9 1.8	25.5	21 4.8
Wed.	16	46 28 12.9	53 38 28.1	5 7 4.0	5 0 18.2	26.5	22 3.6
Thur.	17	60 54 52.4	68 16 40.5	4 48 37.2	4 32 2.2	27.5	23 7.5
Frid.	18	75 43 0.8	83 12 49.3	4 10 41.5	3 44 51.6	28.5	♂
Sat.	19	90 44 58.6	98 18 15.8	3 14 57.6	2 41 31.8	0.2	0 13.8
Sun.	20	105 51 29.6	113 23 28.6	2 5 13.8	1 26 48.1	1.2	1 19.2
Mon.	21	120 53 10.4	128 19 35.8	N. 0 47 0.9	N. 0 6 40.4	2.2	2 20.7
Tues.	22	135 41 59.5	142 59 42.1	S. 0 33 27.0	S. 1 12 37.5	3.2	3 17.2
Wed.	23	150 12 16.3	157 19 23.1	1 50 11.6	2 25 34.6	4.2	4 9.0
Thur.	24	164 20 53.6	171 16 44.8	2 58 17.0	3 27 55.5	5.2	4 57.3
Frid.	25	178 7 1.3	184 51 51.6	3 54 10.2	4 16 47.7	6.2	5 43.7
Sat.	26	191 31 28.5	198 6 8.6	4 35 37.7	4 50 34.9	7.2	6 29.3
Sun.	27	204 36 8.6	211 1 47.4	5 1 35.7	5 8 40.7	8.2	7 15.5
Mon.	28	217 23 24.2	223 41 17.6	5 11 52.3	5 11 15.1	9.2	8 2.9
Tues.	29	229 55 46.6	236 7 8.1	5 6 55.9	4 59 2.8	10.2	8 52.2
Wed.	30	242 15 40.0	248 21 37.7	4 47 46.1	4 33 16.6	11.2	9 43.0
Thur.	31	254 25 16.4	260 26 50.4	S. 4 15 47.4	S. 3 55 31.8	12.2	10 34.8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>TUESDAY 1.</i>				<i>THURSDAY 3.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	14 24 52.00	S. 19 44 3.7	101.52	0	16 9 45.78	S. 25 44 22.4	44.85
1	14 26 58.94	19 54 12.8	100.52	1	16 12 0.51	25 48 51.5	43.83
2	14 29 6.07	20 4 15.9	99.50	2	16 14 15.33	25 53 12.7	42.32
3	14 31 13.38	20 14 12.9	98.47	3	16 16 30.24	25 57 26.0	40.88
4	14 33 20.89	20 24 3.7	97.45	4	16 18 45.24	26 1 31.3	39.54
5	14 35 28.59	20 33 48.4	96.40	5	16 21 0.33	26 5 28.6	38.22
6	14 37 36.48	20 43 26.8	95.35	6	16 23 15.49	26 9 17.9	36.97
7	14 39 44.56	20 52 58.9	94.30	7	16 25 30.73	26 12 59.1	35.53
8	14 41 52.84	21 2 24.7	93.23	8	16 27 46.04	26 16 32.3	34.20
9	14 44 1.30	21 11 44.1	92.15	9	16 30 1.41	26 19 57.5	32.85
10	14 46 9.95	21 20 57.0	91.08	10	16 32 16.84	26 23 14.6	31.50
11	14 48 18.79	21 30 3.5	89.98	11	16 34 32.33	26 26 23.6	30.13
12	14 50 27.82	21 39 3.4	88.88	12	16 36 47.87	26 29 24.5	28.80
13	14 52 37.04	21 47 56.7	87.78	13	16 39 3.46	26 32 17.3	27.43
14	14 54 46.44	21 56 43.4	86.67	14	16 41 19.09	26 35 1.9	26.10
15	14 56 56.03	22 5 23.4	85.55	15	16 43 34.75	26 37 38.5	24.73
16	14 59 5.81	22 13 56.7	84.42	16	16 45 50.45	26 40 6.9	23.37
17	15 1 15.77	22 22 23.2	83.28	17	16 48 6.18	26 42 27.1	22.02
18	15 3 25.91	22 30 42.9	82.13	18	16 50 21.93	26 44 39.2	20.65
19	15 5 36.24	22 38 55.7	80.98	19	16 52 37.70	26 46 43.1	19.28
20	15 7 46.74	22 47 1.6	79.83	20	16 54 53.48	26 48 38.8	17.93
21	15 9 57.43	22 55 0.6	78.67	21	16 57 9.27	26 50 26.4	16.55
22	15 12 8.30	23 2 52.6	77.48	22	16 59 25.06	26 52 5.7	15.22
23	15 14 19.34	S. 23 10 37.5	76.32	23	17 1 40.86	S. 26 53 37.0	13.83
<i>WEDNESDAY 2.</i>				<i>FRIDAY 4.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	15 16 30.55	S. 23 18 15.4	75.13	0	17 3 56.65	S. 26 55 0.0	12.47
1	15 18 41.94	23 25 46.2	73.93	1	17 6 12.43	26 56 14.8	11.12
2	15 20 53.49	23 33 9.8	72.73	2	17 8 28.19	26 57 21.5	9.75
3	15 23 5.22	23 40 26.2	71.52	3	17 10 43.93	26 58 20.0	8.38
4	15 25 17.11	23 47 35.3	70.32	4	17 12 59.65	26 59 10.3	7.02
5	15 27 29.17	23 54 37.2	69.10	5	17 15 15.33	26 59 52.4	5.67
6	15 29 41.38	24 1 31.8	67.87	6	17 17 30.98	27 0 26.4	4.32
7	15 31 53.76	24 8 19.0	66.63	7	17 19 46.58	27 0 52.3	2.93
8	15 34 6.29	24 14 58.8	65.40	8	17 22 2.14	27 1 9.9	1.60
9	15 36 18.98	24 21 31.2	64.15	9	17 24 17.64	27 1 19.5	0.23
10	15 38 31.83	24 27 56.1	62.90	10	17 26 33.09	27 1 20.9	1.11
11	15 40 44.82	24 34 13.5	61.65	11	17 28 48.48	27 1 14.2	2.41
12	15 42 57.95	24 40 23.4	60.38	12	17 31 3.79	27 0 59.4	3.81
13	15 45 11.23	24 46 25.7	59.12	13	17 33 19.04	27 0 36.5	5.11
14	15 47 24.65	24 52 20.4	57.83	14	17 35 34.21	27 0 5.5	6.51
15	15 49 38.20	24 58 7.4	56.57	15	17 37 49.29	26 59 26.5	7.81
16	15 51 51.89	25 3 46.8	55.28	16	17 40 4.30	26 58 39.4	9.11
17	15 54 5.71	25 9 18.5	53.98	17	17 42 19.21	26 57 44.3	10.51
18	15 56 19.66	25 14 42.4	52.70	18	17 44 34.02	26 56 41.1	11.81
19	15 58 33.72	25 19 58.6	51.42	19	17 46 48.73	26 55 30.0	13.11
20	16 0 47.91	25 25 7.1	50.10	20	17 49 3.34	26 54 10.9	14.51
21	16 3 2.21	25 30 7.7	48.78	21	17 51 17.84	26 52 43.8	15.81
22	16 5 16.63	25 35 0.4	47.50	22	17 53 32.23	26 51 8.8	17.11
23	16 7 31.15	25 39 45.4	46.17	23	17 55 46.50	26 49 25.9	18.41
24	16 9 45.78	S. 25 44 22.4		24	17 58 0.64	S. 26 47 35.1	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 5.				MONDAY 7.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	17 58 0.64	S. 26 47 35.1	19.78	0	19 41 44.74	S. 22 54 47.2	75.87
1	18 0 14.66	26 45 36.4	21.08	1	19 43 48.92	22 47 12.0	76.85
2	18 2 28.54	26 43 29.9	22.40	2	19 45 52.86	22 39 30.9	77.83
3	18 4 42.29	26 41 15.5	23.68	3	19 47 56.55	22 31 43.9	78.82
4	18 6 55.90	26 38 53.4	24.98	4	19 49 59.99	22 23 51.0	79.80
5	18 9 9.36	26 36 23.5	26.27	5	19 52 3.19	22 15 52.2	80.75
6	18 11 22.68	26 33 45.9	27.57	6	19 54 6.14	22 7 47.7	81.70
7	18 13 35.84	26 31 0.5	28.83	7	19 56 8.85	21 59 37.5	82.65
8	18 15 48.84	26 28 7.5	30.10	8	19 58 11.31	21 51 21.6	83.58
9	18 18 1.69	26 25 6.9	31.38	9	20 0 13.53	21 43 0.1	84.52
10	18 20 14.37	26 21 58.6	32.65	10	20 2 15.50	21 34 33.0	85.45
11	18 22 26.88	26 18 42.7	33.90	11	20 4 17.23	21 26 0.3	86.35
12	18 24 39.21	26 15 19.3	35.15	12	20 6 18.71	21 17 22.2	87.25
13	18 26 51.37	26 11 48.4	36.40	13	20 8 19.95	21 8 38.7	88.17
14	18 29 3.36	26 8 10.0	37.65	14	20 10 20.95	20 59 49.7	89.05
15	18 31 15.16	26 4 24.1	38.87	15	20 12 21.71	20 50 55.4	89.92
16	18 33 26.78	26 0 30.9	40.12	16	20 14 22.23	20 41 55.9	90.80
17	18 35 38.20	25 56 30.2	41.32	17	20 16 22.51	20 32 51.1	91.68
18	18 37 49.44	25 52 22.3	42.55	18	20 18 22.55	20 23 41.0	92.52
19	18 40 0.48	25 48 7.0	43.77	19	20 20 22.36	20 14 25.9	93.38
20	18 42 11.31	25 43 44.4	44.97	20	20 22 21.93	20 5 5.6	94.22
21	18 44 21.95	25 39 14.6	46.17	21	20 24 21.26	19 55 40.3	95.07
22	18 46 32.38	25 34 37.6	47.35	22	20 26 20.37	19 46 9.9	95.88
23	18 48 42.61	S. 25 29 53.5	48.55	23	20 28 19.24	S. 19 36 34.6	96.70
SUNDAY 6.				TUESDAY 8.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	18 50 52.62	S. 25 25 2.2	49.73	0	20 30 17.88	S. 19 26 54.4	97.52
1	18 53 2.42	25 20 3.8	50.90	1	20 32 16.30	19 17 9.3	98.32
2	18 55 12.01	25 14 58.4	52.05	2	20 34 14.49	19 7 19.4	99.12
3	18 57 21.39	25 9 46.1	53.23	3	20 36 12.45	18 57 24.7	99.90
4	18 59 30.54	25 4 26.7	54.37	4	20 38 10.20	18 47 25.3	100.70
5	19 1 39.47	24 59 0.5	55.53	5	20 40 7.72	18 37 21.1	101.45
6	19 3 48.17	24 53 27.3	56.65	6	20 42 5.02	18 27 12.4	102.22
7	19 5 56.65	24 47 47.4	57.78	7	20 44 2.11	18 16 59.1	102.98
8	19 8 4.91	24 42 0.7	58.92	8	20 45 58.98	18 6 41.2	103.73
9	19 10 12.93	24 36 7.2	60.03	9	20 47 55.64	17 56 18.8	104.47
10	19 12 20.72	24 30 7.0	61.13	10	20 49 52.08	17 45 52.0	105.20
11	19 14 28.28	24 24 0.2	62.23	11	20 51 48.32	17 35 20.8	105.93
12	19 16 35.59	24 17 46.8	63.33	12	20 53 44.35	17 24 45.2	106.65
13	19 18 42.68	24 11 26.8	64.40	13	20 55 40.18	17 14 5.3	107.35
14	19 20 49.53	24 5 0.4	65.50	14	20 57 35.80	17 3 21.2	108.07
15	19 22 56.14	23 58 27.4	66.57	15	20 59 31.23	16 52 32.8	108.77
16	19 25 2.51	23 51 48.0	67.62	16	21 1 26.46	16 41 40.2	109.43
17	19 27 8.64	23 45 2.3	68.68	17	21 3 21.50	16 30 43.6	110.13
18	19 29 14.53	23 38 10.2	69.73	18	21 5 16.34	16 19 42.8	110.82
19	19 31 20.17	23 31 11.8	70.77	19	21 7 11.00	16 8 37.9	111.47
20	19 33 25.58	23 24 7.2	71.80	20	21 9 5.47	15 57 29.1	112.13
21	19 35 30.73	23 16 56.4	72.83	21	21 10 59.76	15 46 16.3	112.78
22	19 37 35.65	23 9 39.4	73.85	22	21 12 53.87	15 34 59.6	113.43
23	19 39 40.32	23 2 16.3	74.85	23	21 14 47.80	15 23 39.0	114.07
24	19 41 44.74	S. 22 54 47.2		24	21 16 41.55	S. 15 12 14.6	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 9.				FRIDAY 11.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	21 16 41.55	S. 15 12 14.6	114.70	0	22 45 23.55	S. 5 3 19.3	136.88
1	21 18 35.13	15 0 46.4	115.33	1	22 47 13.11	4 49 38.0	137.17
2	21 20 28.55	14 49 14.4	115.95	2	22 49 2.69	4 35 55.0	137.47
3	21 22 21.80	14 37 38.7	116.55	3	22 50 52.29	4 22 10.2	137.75
4	21 24 14.89	14 25 59.4	117.15	4	22 52 41.91	4 8 23.7	138.02
5	21 26 7.82	14 14 16.5	117.75	5	22 54 31.57	3 54 35.5	138.30
6	21 28 0.60	14 2 30.0	118.35	6	22 56 21.25	3 40 45.7	138.58
7	21 29 53.22	13 50 39.9	118.92	7	22 58 10.98	3 26 54.4	138.84
8	21 31 45.69	13 38 46.4	119.50	8	23 0 0.75	3 13 1.5	139.09
9	21 33 38.01	13 26 49.4	120.05	9	23 1 50.58	2 59 7.2	139.36
10	21 35 30.20	13 14 49.1	120.63	10	23 3 40.45	2 45 11.4	139.58
11	21 37 22.24	13 2 45.3	121.17	11	23 5 30.38	2 31 14.2	139.77
12	21 39 14.14	12 50 38.3	121.72	12	23 7 20.38	2 17 15.6	139.91
13	21 41 5.91	12 38 28.0	122.25	13	23 9 10.45	2 3 15.8	140.20
14	21 42 57.56	12 26 14.5	122.78	14	23 11 0.58	1 49 14.6	140.38
15	21 44 49.08	12 13 57.8	123.32	15	23 12 50.80	1 35 12.3	140.51
16	21 46 40.47	12 1 37.9	123.82	16	23 14 41.10	1 21 8.8	140.78
17	21 48 31.75	11 49 15.0	124.35	17	23 16 31.48	1 7 4.1	140.97
18	21 50 22.91	11 36 48.9	124.85	18	23 18 21.96	0 52 58.3	141.13
19	21 52 13.96	11 24 19.8	125.33	19	23 20 12.53	0 38 51.5	141.39
20	21 54 4.90	11 11 47.8	125.85	20	23 22 3.21	0 24 43.7	141.47
21	21 55 55.74	10 59 12.7	126.32	21	23 23 53.99	S. 0 10 34.9	141.62
22	21 57 46.48	10 46 34.8	126.80	22	23 25 44.88	N. 0 3 34.8	141.77
23	21 59 37.12	S. 10 33 54.0	127.27	23	23 27 35.89	N. 0 17 45.4	141.90
THURSDAY 10.				SATURDAY 12.			
0	22 1 27.67	S. 10 21 10.4	127.73	0	23 29 27.02	N. 0 31 56.8	142.03
1	22 3 18.13	10 8 24.0	128.20	1	23 31 18.28	0 46 9.0	142.15
2	22 5 8.51	9 55 34.8	128.67	2	23 33 9.66	1 0 21.9	142.27
3	22 6 58.80	9 42 42.8	129.08	3	23 35 1.19	1 14 35.5	142.38
4	22 8 49.02	9 29 48.3	129.53	4	23 36 52.85	1 28 49.8	142.47
5	22 10 39.17	9 16 51.1	129.97	5	23 38 44.66	1 43 4.6	142.57
6	22 12 29.24	9 3 51.3	130.40	6	23 40 36.63	1 57 20.0	142.65
7	22 14 19.25	8 50 48.9	130.80	7	23 42 28.75	2 11 35.9	142.72
8	22 16 9.20	8 37 44.1	131.22	8	23 44 21.03	2 25 52.2	142.78
9	22 17 59.10	8 24 36.8	131.62	9	23 46 13.48	2 40 8.9	142.83
10	22 19 48.94	8 11 27.1	132.03	10	23 48 6.09	2 54 25.9	142.88
11	22 21 38.73	7 58 14.9	132.40	11	23 49 58.89	3 8 43.2	142.92
12	22 23 28.47	7 45 0.5	132.78	12	23 51 51.87	3 23 0.7	142.91
13	22 25 18.18	7 31 43.8	133.17	13	23 53 45.04	3 37 18.4	142.91
14	22 27 7.85	7 18 24.8	133.53	14	23 55 38.40	3 51 36.2	142.91
15	22 28 57.49	7 5 3.6	133.90	15	23 57 31.96	4 5 54.1	142.91
16	22 30 47.11	6 51 40.2	134.25	16	23 59 25.72	4 20 12.0	142.91
17	22 32 36.70	6 38 14.7	134.62	17	0 1 19.69	4 34 29.9	142.91
18	22 34 26.27	6 24 47.0	134.98	18	0 3 13.88	4 48 47.6	142.93
19	22 36 15.83	6 11 17.4	135.30	19	0 5 8.28	5 3 5.2	142.96
20	22 38 5.37	5 57 45.6	135.62	20	0 7 2.91	5 17 22.6	142.97
21	22 39 54.92	5 44 11.9	135.93	21	0 8 57.77	5 31 39.8	142.80
22	22 41 44.46	5 30 36.3	136.27	22	0 10 52.86	5 45 56.6	142.78
23	22 43 34.00	5 16 58.7	136.57	23	0 12 48.19	6 0 13.0	142.67
24	22 45 23.55	S. 5 3 19.3		24	0 14 43.77	N. 6 14 29.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>SUNDAY 13.</i>				<i>TUESDAY 15.</i>		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0 14 43 ⁷⁷	N. 6 14 29 ⁰	142 ⁵⁸		0 1 53 44 ³⁵	N. 17 7 43 ¹	123 ³³
0 16 39 ⁶⁰	6 28 44 ⁵	142 ⁴⁸		1 1 55 58 ³⁵	17 20 6 ⁷	123 ¹⁸
0 18 35 ⁶⁸	6 42 59 ⁴	142 ³⁸		2 1 58 12 ⁸³	17 32 25 ⁸	122 ⁴²
0 20 32 ⁰³	6 57 13 ⁷	142 ²⁷		3 2 0 27 ⁸¹	17 44 40 ³	121 ⁶⁰
0 22 28 ⁶⁴	7 11 27 ³	142 ¹⁵		4 2 2 43 ²⁹	17 56 49 ⁹	120 ⁸⁰
0 24 25 ⁵³	7 25 40 ²	142 ⁰⁰		5 2 4 59 ²⁸	18 8 54 ⁷	119 ⁹⁷
0 26 22 ⁷⁰	7 39 52 ²	141 ⁸⁷		6 2 7 15 ⁷⁶	18 20 54 ⁵	119 ¹²
0 28 20 ¹⁴	7 54 3 ⁴	141 ⁷⁰		7 2 9 32 ⁷⁶	18 32 49 ²	118 ²⁵
0 30 17 ⁸⁸	8 8 13 ⁶	141 ⁵³		8 2 11 50 ²⁷	18 44 38 ⁷	117 ³⁵
0 32 15 ⁹¹	8 22 22 ⁸	141 ³⁷		9 2 14 8 ²⁹	18 56 22 ⁸	116 ⁴⁵
0 34 14 ²⁴	8 36 31 ⁰	141 ¹⁵		10 2 16 26 ⁸²	19 8 1 ⁵	115 ³³
0 36 12 ⁸⁸	8 50 37 ⁹	140 ⁹⁷		11 2 18 45 ⁸⁸	19 19 34 ⁷	114 ⁵⁸
0 38 11 ⁸³	9 4 43 ⁷	140 ⁷⁵		12 2 21 5 ⁴⁵	19 31 2 ²	113 ⁶²
0 40 11 ⁰⁹	9 18 48 ²	140 ⁵²		13 2 23 25 ⁵⁵	19 42 23 ⁹	112 ⁶⁵
0 42 10 ⁶⁸	9 32 51 ³	140 ²⁸		14 2 25 46 ¹⁸	19 53 39 ⁸	111 ⁶³
0 44 10 ⁵⁹	9 46 53 ⁰	140 ⁰³		15 2 28 7 ³⁴	20 4 49 ⁶	110 ⁶²
0 46 10 ⁸³	10 0 53 ²	139 ⁷⁷		16 2 30 29 ⁰³	20 15 53 ³	109 ⁵⁷
0 48 11 ⁴¹	10 14 51 ⁸	139 ⁴⁸		17 2 32 51 ²⁴	20 26 50 ⁷	108 ⁵²
0 50 12 ³⁴	10 28 48 ⁷	139 ²²		18 2 35 13 ⁹⁹	20 37 41 ⁸	107 ⁴³
0 52 13 ⁶⁰	10 42 44 ⁰	138 ⁹⁰		19 2 37 37 ²⁷	20 48 26 ⁴	106 ³²
0 54 15 ²³	10 56 37 ⁴	138 ⁶⁰		20 2 40 1 ⁰⁹	20 59 4 ³	105 ²²
0 56 17 ²¹	11 10 29 ⁰	138 ²⁷		21 2 42 25 ⁴³	21 9 35 ⁶	104 ⁰⁷
0 58 19 ⁵⁵	11 24 18 ⁶	137 ⁹²		22 2 44 50 ³²	21 20 0 ⁰	102 ⁹⁶
1 0 22 ²⁶	N. 11 38 6 ¹	137 ⁵⁸		23 2 47 15 ⁷³	N. 21 30 17 ⁴	101 ⁷⁸
<i>MONDAY 14.</i>				<i>WEDNESDAY 16.</i>		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
1 2 25 ³⁵	N. 11 51 51 ⁶	137 ²²		0 2 49 41 ⁶⁹	N. 21 40 27 ⁷	100 ⁵²
1 4 28 ⁸¹	12 5 34 ⁹	136 ⁸³		1 2 52 8 ¹⁸	21 50 30 ⁸	99 ³⁰
1 6 32 ⁶⁶	12 19 15 ⁹	136 ⁴³		2 2 54 35 ¹⁹	22 0 26 ⁶	98 ⁰⁷
1 8 36 ⁹⁰	12 32 54 ⁵	136 ⁰³		3 2 57 2 ⁷⁵	22 10 15 ⁰	96 ⁷⁸
1 10 41 ⁵³	12 46 30 ⁷	135 ⁶²		4 2 59 30 ⁸³	22 19 55 ⁷	95 ⁵⁰
1 12 46 ⁵⁶	13 0 4 ⁴	135 ¹⁷		5 3 1 59 ⁴⁵	22 29 28 ⁷	94 ²⁰
1 14 51 ⁹⁹	13 13 35 ⁴	134 ⁷³		6 3 4 28 ⁶¹	22 38 53 ⁹	92 ⁸⁸
1 16 57 ⁸³	13 27 3 ⁸	134 ²⁵		7 3 6 58 ²⁹	22 48 11 ²	91 ⁵²
1 19 4 ⁰⁹	13 40 29 ³	133 ⁷⁸		8 3 9 28 ⁵⁰	22 57 20 ³	90 ¹⁷
1 21 10 ⁷⁶	13 53 52 ⁰	133 ²⁸		9 3 11 59 ²⁴	23 6 21 ³	88 ⁷⁸
1 23 17 ⁸⁶	14 7 11 ⁷	132 ⁷⁸		10 3 14 30 ⁵⁰	23 15 14 ⁰	87 ³⁷
1 25 25 ³⁹	14 20 28 ⁴	132 ²⁵		11 3 17 2 ²⁸	23 23 58 ²	85 ⁹³
1 27 33 ³⁵	14 33 41 ⁹	131 ⁷²		12 3 19 34 ⁵⁹	23 32 33 ⁸	84 ⁵⁶
1 29 41 ⁷⁵	14 46 52 ²	131 ¹⁵		13 3 22 7 ⁴²	23 41 0 ⁸	83 ⁰²
1 31 50 ⁶⁰	14 59 59 ¹	130 ⁵⁸		14 3 24 40 ⁷⁵	23 49 18 ⁹	81 ⁵³
1 33 59 ⁸⁹	15 13 2 ⁶	130 ⁰⁰		15 3 27 14 ⁶⁰	23 57 28 ¹	80 ⁰³
1 36 9 ⁶³	15 26 2 ⁶	129 ³⁸		16 3 29 48 ⁹⁵	24 5 28 ³	78 ⁴⁸
1 38 19 ⁸³	15 38 58 ⁹	128 ⁷⁷		17 3 32 23 ⁸¹	24 13 19 ²	76 ⁹⁵
1 40 30 ⁵⁰	15 51 51 ⁵	128 ¹³		18 3 34 59 ¹⁶	24 21 0 ⁹	75 ³⁸
1 42 41 ⁶²	16 4 40 ³	127 ⁴⁷		19 3 37 35 ⁰¹	24 28 33 ²	73 ⁷⁸
1 44 53 ²²	16 17 25 ¹	126 ⁸⁰		20 3 40 11 ³⁴	24 35 55 ⁹	72 ¹⁸
1 47 5 ²⁷	16 30 5 ⁹	126 ¹²		21 3 42 48 ¹⁶	24 43 9 ⁰	70 ⁵⁷
1 49 17 ⁸²	16 42 42 ⁶	125 ⁴⁰		22 3 45 25 ⁴⁵	24 50 12 ⁴	68 ⁹²
1 51 30 ⁸⁴		124 ⁶⁸		23 3 48 3 ²¹	24 57 5 ⁹	67 ²⁵
1 53 44 ³⁵	N.			24 3 50 41 ⁴⁴	N. 25 3 49 ⁴	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10".	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10".
THURSDAY 17.				SATURDAY 19.			
0	h m s 3 50 41.44	N. 25° 3' 49".4	65.57	0	h m s 6 3 21.07	N. 26° 42' 31".2	29.4
1	3 53 20.12	25 10 22.8	63.87	1	6 6 9.68	26 39 32.9	31.4
2	3 55 59.26	25 16 46.0	62.15	2	6 8 58.19	26 36 22.1	33.4
3	3 58 38.84	25 22 58.9	60.42	3	6 11 46.58	26 32 58.9	35.4
4	4 1 18.86	25 29 1.4	58.65	4	6 14 34.84	26 29 23.2	38.4
5	4 3 59.31	25 34 53.3	56.90	5	6 17 22.96	26 25 35.2	40.4
6	4 6 40.18	25 40 34.7	55.10	6	6 20 10.92	26 21 34.8	42.4
7	4 9 21.47	25 46 5.3	53.28	7	6 22 58.71	26 17 22.1	44.4
8	4 12 3.16	25 51 25.0	51.48	8	6 25 46.32	26 12 57.1	46.4
9	4 14 45.25	25 56 33.9	49.63	9	6 28 33.74	26 8 20.0	48.4
10	4 17 27.73	26 1 31.7	47.78	10	6 31 20.96	26 3 30.8	50.4
11	4 20 10.59	26 6 18.4	45.92	11	6 34 7.96	25 58 29.4	52.4
12	4 22 53.82	26 10 53.9	44.03	12	6 36 54.74	25 53 16.1	54.4
13	4 25 37.42	26 15 18.1	42.13	13	6 39 41.28	25 47 50.8	56.4
14	4 28 21.37	26 19 30.9	40.23	14	6 42 27.56	25 42 13.6	58.4
15	4 31 5.67	26 23 32.3	38.30	15	6 45 13.59	25 36 24.7	60.4
16	4 33 50.29	26 27 22.1	36.35	16	6 47 59.34	25 30 24.0	62.4
17	4 36 35.23	26 31 0.2	34.40	17	6 50 44.81	25 24 11.7	63.4
18	4 39 20.49	26 34 26.6	32.45	18	6 53 29.99	25 17 47.8	65.4
19	4 42 6.04	26 37 41.3	30.47	19	6 56 14.87	25 11 12.5	67.4
20	4 44 51.87	26 40 44.1	28.47	20	6 58 59.43	25 4 25.8	69.4
21	4 47 37.99	26 43 34.9	26.48	21	7 1 43.67	24 57 27.8	71.4
22	4 50 24.37	26 46 13.8	24.47	22	7 4 27.57	24 50 18.6	73.4
23	4 53 11.00	N. 26° 48' 40".6	22.45	23	7 7 11.14	N. 24° 42' 58".2	75.4
FRIDAY 18.				SUNDAY 20.			
0	4 55 57.86	N. 26° 50' 55".3	20.42	0	7 9 54.36	N. 24° 35' 26".9	77.4
1	4 58 44.96	26 52 57.8	18.37	1	7 12 37.22	24 27 44.7	78.4
2	5 1 32.27	26 54 48.0	16.33	2	7 15 19.71	24 19 51.6	80.4
3	5 4 19.78	26 56 26.0	14.27	3	7 18 1.82	24 11 47.9	82.4
4	5 7 7.48	26 57 51.6	12.20	4	7 20 43.56	24 3 33.5	84.4
5	5 9 55.36	26 59 4.8	10.13	5	7 23 24.91	23 55 8.7	85.4
6	5 12 43.41	27 0 5.6	8.07	6	7 26 5.86	23 46 33.5	87.4
7	5 15 31.60	27 0 54.0	5.98	7	7 28 46.42	23 37 48.0	89.4
8	5 18 19.93	27 1 29.9	3.90	8	7 31 26.56	23 28 52.3	90.4
9	5 21 8.39	27 1 53.3	1.80	9	7 34 6.30	23 19 46.6	92.4
10	5 23 56.96	27 2 4.1	0.30	10	7 36 45.61	23 10 30.9	94.4
11	5 26 45.63	27 2 2.3	2.38	11	7 39 24.50	23 1 5.5	95.4
12	5 29 34.38	27 1 48.0	4.50	12	7 42 2.97	22 51 30.3	97.4
13	5 32 23.21	27 1 21.0	6.58	13	7 44 41.00	22 41 45.5	99.4
14	5 35 12.09	27 0 41.5	8.72	14	7 47 18.59	22 31 51.3	100.4
15	5 38 1.02	26 59 49.2	10.80	15	7 49 55.73	22 21 47.8	102.4
16	5 40 49.97	26 58 44.4	12.92	16	7 52 32.43	22 11 35.0	103.4
17	5 43 38.94	26 57 26.9	15.02	17	7 55 8.67	22 1 13.2	105.4
18	5 46 27.92	26 55 56.8	17.13	18	7 57 44.46	21 50 42.4	106.4
19	5 49 16.88	26 54 14.0	19.22	19	8 0 19.79	21 40 2.8	
20	5 52 5.82	26 52 18.7	21.33	20	8 2 54.65	21 29 14.4	
21	5 54 54.72	26 50 10.7	23.43	21	8 5 29.06	21 18 1.4	
22	5 57 43.57	26 47 50.1	25.53	22	8 8 2.99	21 7 1.4	
23	6 0 32.36	26 45 16.9	27.62	23	8 10 36.45	20 53 5.4	
24	6 3 21.07	N. 26° 42' 31".2		24	8 13 9.44	N. 20° 41' 2.4	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
MONDAY 21.				WEDNESDAY 23.		
h m s	° ' "	"		h m s	° ' "	"
8 13 9.44	N.20 44 36.8	114.97	0	10 6 31.72	N.9 41 27.4	154.22
8 15 41.95	20 33 7.0	116.30	1	10 8 43.29	9 26 2.1	154.53
8 18 13.99	20 21 29.2	117.58	2	10 10 54.51	9 10 34.9	154.87
8 20 45.54	20 9 43.7	118.85	3	10 13 5.40	8 55 5.7	155.17
8 23 16.63	19 57 50.6	120.12	4	10 15 15.95	8 39 34.7	155.45
8 25 47.23	19 45 49.9	121.35	5	10 17 26.17	8 24 2.0	155.70
8 28 17.35	19 33 41.8	122.55	6	10 19 36.07	8 8 27.8	155.97
8 30 47.00	19 21 26.5	123.73	7	10 21 45.66	7 52 52.0	156.20
8 33 16.17	19 9 4.1	124.92	8	10 23 54.93	7 37 14.8	156.43
8 35 44.85	18 56 34.6	126.05	9	10 26 3.89	7 21 36.2	156.62
8 38 13.06	18 43 58.3	127.17	10	10 28 12.56	7 5 56.5	156.80
8 40 40.80	18 31 15.3	128.27	11	10 30 20.92	6 50 15.7	156.98
8 43 8.05	18 18 25.7	129.35	12	10 32 29.00	6 34 33.8	157.13
8 45 34.83	18 5 29.6	130.40	13	10 34 36.79	6 18 51.0	157.27
8 48 1.14	17 52 27.2	131.43	14	10 36 44.31	6 3 7.4	157.40
8 50 26.98	17 39 18.6	132.45	15	10 38 51.55	5 47 23.0	157.50
8 52 52.34	17 26 3.9	133.43	16	10 40 58.52	5 31 38.0	157.60
8 55 17.24	17 12 43.3	134.40	17	10 43 5.22	5 15 52.4	157.68
8 57 41.66	16 59 16.9	135.35	18	10 45 11.67	5 0 6.3	157.73
9 0 5.63	16 45 44.8	136.28	19	10 47 17.87	4 44 19.9	157.80
9 2 29.12	16 32 7.1	137.17	20	10 49 23.82	4 28 33.1	157.83
9 4 52.15	16 18 24.1	138.05	21	10 51 29.53	4 12 46.1	157.85
9 7 14.73	16 4 35.8	138.93	22	10 53 35.00	3 56 59.0	157.87
9 9 36.85	N.15 50 42.2	139.75	23	10 55 40.24	N.3 41 11.8	157.85
TUESDAY 22.				THURSDAY 24.		
h m s	° ' "	"		h m s	° ' "	"
9 11 58.51	N.15 36 43.7	140.57	0	10 57 45.27	N.3 25 24.7	157.83
9 14 19.72	15 22 40.3	141.37	1	10 59 50.07	3 9 37.7	157.80
9 16 40.48	15 8 32.1	142.15	2	11 1 54.65	2 53 50.9	157.77
9 19 0.80	14 54 19.2	142.88	3	11 3 59.03	2 38 4.3	157.70
9 21 20.68	14 40 1.9	143.63	4	11 6 3.20	2 22 18.1	157.62
9 23 40.12	14 25 40.1	144.35	5	11 8 7.18	2 6 32.4	157.53
9 25 59.13	14 11 14.0	145.03	6	11 10 10.96	1 50 47.2	157.43
9 28 17.70	13 56 43.8	145.70	7	11 12 14.56	1 35 2.6	157.32
9 30 35.85	13 42 9.6	146.37	8	11 14 17.97	1 19 18.7	157.20
9 32 53.58	13 27 31.4	147.00	9	11 16 21.21	1 3 35.5	157.05
9 35 10.88	13 12 49.4	147.62	10	11 18 24.29	0 47 53.2	156.92
9 37 27.78	12 58 3.7	148.20	11	11 20 27.19	0 32 11.7	156.73
9 39 44.26	12 43 14.5	148.78	12	11 22 29.94	0 16 31.3	156.57
9 42 0.34	12 28 21.8	149.33	13	11 24 32.54	N.0 0 51.9	156.37
9 44 16.02	12 13 25.8	149.87	14	11 26 34.99	S.0 14 46.3	156.17
9 46 31.30	11 58 26.6	150.38	15	11 28 37.29	0 30 23.3	155.95
9 48 46.19	11 43 24.3	150.88	16	11 30 39.46	0 45 59.0	155.73
9 51 0.69	11 28 19.0	151.37	17	11 32 41.49	1 1 33.4	155.50
9 53 14.81	11 13 10.8	151.83	18	11 34 43.40	1 17 6.4	155.25
	10 57 59.8	152.27	19	11 36 45.19	1 32 37.9	154.98
	42 46.2	152.68	20	11 38 46.86	1 48 7.8	154.73
	30.1	153.10	21	11 40 48.41	2 3 36.2	154.43
	11.5	153.48	22	11 42 49.86	2 19 2.8	154.15
	0.6	153.87	23	11 44 51.21	2 34 27.7	153.83
	4		24	11 46 52.46	S.2 49 50.7	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ⁿ .	Hour.	Right Ascension.	Declination.	Diff.
FRIDAY 25.				SUNDAY 27.			
0	11 46 52.46	S. 2 49 50.7	153.53	0	13 23 31.85	S. 14 12 38.2	1
1	11 48 53.62	3 5 11.9	153.20	1	13 25 33.96	14 25 19.1	1
2	11 50 54.70	3 20 31.1	152.87	2	13 27 36.18	14 37 55.2	1
3	11 52 55.69	3 35 48.3	152.52	3	13 29 38.52	14 50 26.7	1
4	11 54 56.61	3 51 3.4	152.17	4	13 31 40.98	15 2 53.4	1
5	11 56 57.45	4 6 16.4	151.80	5	13 33 43.55	15 15 15.3	1
6	11 58 58.23	4 21 27.2	151.40	6	13 35 46.26	15 27 32.4	1
7	12 0 58.95	4 36 35.6	151.03	7	13 37 49.09	15 39 44.5	1
8	12 2 59.61	4 51 41.8	150.62	8	13 39 52.05	15 51 51.6	1
9	12 5 0.23	5 6 45.5	150.22	9	13 41 55.14	16 3 53.7	1
10	12 7 0.79	5 21 46.8	149.78	10	13 43 58.36	16 15 50.8	1
11	12 9 1.31	5 36 45.5	149.37	11	13 46 1.73	16 27 42.7	1
12	12 11 1.80	5 51 41.7	148.92	12	13 48 5.23	16 39 29.5	1
13	12 13 2.25	6 6 35.2	148.47	13	13 50 8.88	16 51 11.1	1
14	12 15 2.68	6 21 26.0	148.00	14	13 52 12.67	17 2 47.4	1
15	12 17 3.08	6 36 14.0	147.53	15	13 54 16.60	17 14 18.3	1
16	12 19 3.47	6 50 59.2	147.05	16	13 56 20.68	17 25 44.0	1
17	12 21 3.84	7 5 41.5	146.57	17	13 58 24.92	17 37 4.2	1
18	12 23 4.20	7 20 20.9	146.07	18	14 0 29.30	17 48 18.9	1
19	12 25 4.56	7 34 57.3	145.55	19	14 2 33.84	17 59 28.2	1
20	12 27 4.92	7 49 30.6	145.03	20	14 4 38.53	18 10 31.9	1
21	12 29 5.28	8 4 0.8	144.52	21	14 6 43.38	18 21 30.0	1
22	12 31 5.65	8 18 27.9	143.97	22	14 8 48.39	18 32 22.4	1
23	12 33 6.04	S. 8 32 51.7	143.42	23	14 10 53.56	S. 18 43 9.2	1
SATURDAY 26.				MONDAY 28.			
0	12 35 6.44	S. 8 47 12.2	142.87	0	14 12 58.89	S. 18 53 50.2	1
1	12 37 6.87	9 1 29.4	142.30	1	14 15 4.38	19 4 25.4	1
2	12 39 7.32	9 15 43.2	141.73	2	14 17 10.04	19 14 54.8	1
3	12 41 7.80	9 29 53.6	141.15	3	14 19 15.85	19 25 18.3	1
4	12 43 8.32	9 44 0.5	140.55	4	14 21 21.84	19 35 35.9	1
5	12 45 8.88	9 58 3.8	139.95	5	14 23 28.00	19 45 47.5	1
6	12 47 9.48	10 12 3.5	139.33	6	14 25 34.32	19 55 53.1	1
7	12 49 10.13	10 25 59.5	138.72	7	14 27 40.81	20 5 52.6	1
8	12 51 10.83	10 39 51.8	138.10	8	14 29 47.47	20 15 46.0	1
9	12 53 11.58	10 53 40.4	137.43	9	14 31 54.30	20 25 33.3	1
10	12 55 12.39	11 7 25.0	136.80	10	14 34 1.30	20 35 14.4	1
11	12 57 13.26	11 21 5.8	136.15	11	14 36 8.48	20 44 49.2	1
12	12 59 14.19	11 34 42.7	135.47	12	14 38 15.82	20 54 17.7	1
13	13 1 15.20	11 48 15.5	134.80	13	14 40 23.34	21 3 39.9	1
14	13 3 16.27	12 1 44.3	134.12	14	14 42 31.03	21 12 55.7	1
15	13 5 17.43	12 15 9.0	133.43	15	14 44 38.89	21 22 5.1	1
16	13 7 18.67	12 28 29.6	132.72	16	14 46 46.93	21 31 8.1	1
17	13 9 19.99	12 41 45.9	132.02	17	14 48 55.14	21 40 4.5	1
18	13 11 21.40	12 54 58.0	131.30	18	14 51 3.52	21 48 54.4	1
19	13 13 22.89	13 8 5.8	130.57	19	14 53 12.07	21 57 37.7	1
20	13 15 24.48	13 21 9.2	129.83	20	14 55 20.80	22 6 14.3	1
21	13 17 26.17	13 34 8.2	129.08	21	14 57 29.69	22 14 44.3	1
22	13 19 27.96	13 47 2.7	128.35	22	14 59 38.76	22 23 7.6	1
23	13 21 29.85	13 59 52.8	127.57	23	15 1 47.99	22 31 24.1	1
24	13 23 31.85	S. 14 12 38.2		24	15 3 57.40	S. 22 39 38.4	1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 29.				WEDNESDAY 30.		
h m s	° ' "	"		h m s	° ' "	"
5 3 57.40	S. 22 39 33.8	80.48	0	15 56 30.25	S. 25 19 50.7	51.83
5 6 6.97	22 47 36.7	79.32	1	15 58 43.37	25 24 58.7	50.07
5 8 16.71	22 55 32.6	78.18	2	16 0 56.60	25 29 59.1	48.78
5 10 26.62	23 3 21.7	77.02	3	16 3 9.95	25 34 51.8	47.48
5 12 36.69	23 11 3.8	75.85	4	16 5 23.40	25 39 36.7	46.20
5 14 46.92	23 18 38.9	74.68	5	16 7 36.97	25 44 13.9	44.92
5 16 57.32	23 26 7.0	73.50	6	16 9 50.64	25 48 43.4	43.60
5 19 7.88	23 33 28.0	72.32	7	16 12 4.41	25 53 5.0	42.32
5 21 18.60	23 40 41.9	71.13	8	16 14 18.27	25 57 18.9	41.00
5 23 29.47	23 47 48.7	69.93	9	16 16 32.23	26 1 24.9	39.70
5 25 40.50	23 54 48.3	68.73	10	16 18 46.28	26 5 23.1	38.38
5 27 51.69	24 1 40.7	67.52	11	16 21 0.41	26 9 13.4	37.07
5 30 3.03	24 8 25.8	66.32	12	16 23 14.63	26 12 55.8	35.75
5 32 14.52	24 15 3.7	65.10	13	16 25 28.92	26 16 30.3	34.43
5 34 26.16	24 21 34.3	63.87	14	16 27 43.29	26 19 56.9	33.12
5 36 37.95	24 27 57.5	62.63	15	16 29 57.72	26 23 15.6	31.78
5 38 49.88	24 34 13.3	61.40	16	16 32 12.22	26 26 26.3	30.47
5 41 1.96	24 40 21.7	60.17	17	16 34 26.78	26 29 29.1	29.13
5 43 14.17	24 46 22.7	58.93	18	16 36 41.40	26 32 23.9	27.86
5 45 26.52	24 52 16.3	57.67	19	16 38 56.07	26 35 10.7	26.47
5 47 39.01	24 58 2.3	56.40	20	16 41 10.78	26 37 49.5	25.12
5 49 51.63	25 3 40.7	55.17	21	16 43 25.54	26 40 20.2	23.80
5 52 4.38	25 9 11.7	53.88	22	16 45 40.34	26 42 43.0	22.45
5 54 17.25	25 14 35.0	52.62	23	16 47 55.18	26 44 57.7	21.12
5 56 30.25	S. 25 19 50.7		24	16 50 10.05	S. 26 47 4.4	

PHASES OF THE MOON.

	d	h	m
○ Full Moon	3	15	42.0
☾ Last Quarter	11	19	58.1
● New Moon	18	19	14.7
☽ First Quarter	25	10	36.8

	d	h
☾ Apogee	7	4
☾ Perigee	19	17

MEAN TIME.								
LUNAR DISTANCES.								
Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]
1	Regulus W.	72 48 40	2799	74 23 9	2808	75 57 27	2815	77 31
	Mars W.	22 37 24	2906	24 9 35	2904	25 41 49	2904	27 14
	Antares E.	27 8 21	2796	25 33 48	2805	23 59 27	2812	22 25
	Jupiter E.	35 39 20	2801	34 4 53	2813	32 30 42	2826	30 56
	Saturn E.	51 11 50	2795	49 37 15	2804	48 2 52	2813	46 28
	α Aquilæ E.	83 9 7	3443	81 47 39	3455	80 26 25	3470	79 5
2	Regulus W.	85 19 40	2863	86 52 47	2870	88 25 44	2877	89 58
	Mars W.	34 54 24	2924	36 26 12	2929	37 57 54	2935	39 29
	Spica ♀ W.	31 20 3	2877	32 52 51	2884	34 25 30	2890	35 58
	Saturn E.	38 40 46	2870	37 7 48	2880	35 35 3	2889	34 2
	α Aquilæ E.	72 25 7	3574	71 6 4	3595	69 47 24	3616	68 29
	Fomalhaut E.	96 18 54	3219	94 53 7	3224	93 27 26	3230	92 1
3	Mars W.	47 5 32	2971	48 36 21	2977	50 7 3	2983	51 37
	Spica ♀ W.	43 38 38	2928	45 10 21	2935	46 41 55	2941	48 13
	Saturn E.	26 23 22	2961	24 52 20	2976	23 21 37	2992	21 51
	Fomalhaut E.	84 56 18	3277	83 31 40	3286	82 7 12	3296	80 42
4	Mars W.	59 8 28	3021	60 38 15	3027	62 7 54	3033	63 37
	Spica ♀ W.	55 48 38	2978	57 19 18	2983	58 49 52	2989	60 20
	Antares W.	9 55 30	2970	11 26 20	2977	12 57 2	2983	14 27
	Fomalhaut E.	73 44 38	3362	72 21 38	3376	70 58 54	3388	69 36
	α Pegasi E.	94 54 33	3144	93 27 17	3149	92 0 7	3155	90 33
5	Mars W.	71 3 19	3066	72 32 10	3073	74 0 53	3077	75 29
	Spica ♀ W.	67 50 46	3022	69 20 32	3026	70 50 13	3031	72 19
	Antares W.	21 58 43	3015	23 28 37	3020	24 58 25	3025	26 28
	Fomalhaut E.	62 48 7	3482	61 27 23	3501	60 7 0	3521	58 46
	α Pegasi E.	83 19 34	3191	81 53 14	3197	80 27 1	3203	79 0
6	Mars W.	82 51 13	3104	84 19 18	3108	85 47 18	3112	87 15
	Spica ♀ W.	79 46 22	3055	81 15 27	3058	82 44 28	3061	84 13
	Antares W.	33 55 15	3049	35 24 27	3053	36 53 34	3056	38 22
	Jupiter W.	26 44 2	3078	28 12 39	3074	29 41 21	3071	31 10
	Fomalhaut E.	52 12 58	3664	50 55 33	3695	49 38 41	3727	48 22
	α Pegasi E.	71 52 22	3242	70 27 3	3249	69 1 52	3256	67 36
7	Mars W.	94 33 55	3128	96 1 30	3130	97 29 3	3131	98 56
	Antares W.	45 47 8	3069	47 15 55	3071	48 44 40	3072	50 13
	Jupiter W.	38 34 25	3062	40 3 21	3061	41 32 19	3060	43 1
	Saturn W.	22 39 20	3123	24 7 2	3116	25 34 52	3110	27 2
	α Pegasi E.	60 33 46	3302	59 9 37	3311	57 45 38	3319	56 21
	Venus E.	112 27 5	3134	110 59 36	3136	109 32 10	3139	108 4
	SUN E.	143 9 5	3468	141 48 5	3467	140 27 4	3466	139 6
8	Antares W.	57 37 1	3071	59 5 46	3069	60 34 33	3068	62 3
	Jupiter W.	50 26 38	3050	51 55 49	3048	53 25 2	3045	54 54
	Saturn W.	34 24 9	3083	35 52 40	3078	37 21 16	3074	38 49
	α Pegasi E.	49 25 37	3384	48 3 2	3398	46 40 43	3412	45 18
	Venus E.	100 48 28	3148	99 21 16	3148	97 54 5	3148	96 26
	SUN E.	132 20 36	3458	130 59 25	3455	129 38 11	3453	128 16
9	Antares W.	69 28 13	3050	70 57 24	3046	72 26 40	3041	73 56

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
	° ' "		° ' "		° ' "		° ' "	
gulus W.	79 5 32	2832	80 39 19	2839	82 12 56	2847	83 46 23	2855
s W.	28 46 15	2908	30 18 24	2911	31 50 29	2915	33 22 29	2919
ares E.	20 51 15	2828	19 17 24	2838	17 43 45	2845	16 10 15	2852
iter E.	29 23 11	2853	27 49 52	2869	26 16 53	2886	24 44 16	2904
urn E.	44 54 41	2831	43 20 54	2841	41 47 19	2850	40 13 56	2860
quilæ E.	77 44 46	3500	76 24 22	3518	75 4 18	3535	73 44 32	3554
gulus W.	91 31 10	2892	93 3 39	2900	94 35 58	2906	96 8 9	2913
s W.	41 0 56	2946	42 32 17	2953	44 3 29	2958	45 34 35	2965
ca η W.	37 30 25	2902	39 2 41	2909	40 34 48	2916	42 6 47	2922
urn E.	32 30 11	2911	30 58 6	2923	29 26 16	2935	27 54 41	2947
quilæ E.	67 11 16	3664	65 53 51	3691	64 36 54	3718	63 20 26	3747
nalhaut E.	90 36 29	3244	89 11 12	3252	87 46 4	3260	86 21 6	3269
s W.	53 8 3	2996	54 38 21	3002	56 8 31	3009	57 38 33	3014
ca η W.	49 44 41	2954	51 15 52	2960	52 46 55	2966	54 17 50	2972
urn E.	20 21 16	3033	18 51 44	3058	17 22 43	3088	15 54 19	3128
nalhaut E.	79 18 51	3317	77 54 59	3327	76 31 19	3338	75 7 52	3350
s W.	65 6 51	3045	66 36 8	3050	68 5 19	3056	69 34 23	3062
ca η W.	61 50 37	3001	63 20 49	3006	64 50 54	3011	66 20 53	3016
ares W.	15 58 4	2994	17 28 24	3000	18 58 37	3006	20 28 43	3010
nalhaut E.	68 14 10	3417	66 52 13	3432	65 30 33	3448	64 9 11	3464
egasi E.	89 6 8	3167	87 39 19	3173	86 12 37	3178	84 46 2	3184
s W.	76 58 3	3087	78 26 28	3092	79 54 48	3096	81 23 3	3100
ca η W.	73 49 16	3039	75 18 40	3043	76 47 59	3047	78 17 13	3051
ares W.	27 57 43	3034	29 27 14	3038	30 56 39	3042	32 26 0	3047
nalhaut E.	57 27 20	3563	56 8 5	3586	54 49 15	3611	53 30 53	3636
egasi E.	77 34 57	3216	76 9 7	3222	74 43 24	3229	73 17 49	3236
s W.	88 43 5	3119	90 10 52	3121	91 38 36	3124	93 6 17	3126
ca η W.	85 42 18	3066	87 11 9	3069	88 39 56	3071	90 8 41	3074
ares W.	39 51 38	3062	41 20 34	3064	42 49 28	3066	44 18 19	3068
iter W.	32 38 54	3066	34 7 45	3065	35 36 37	3065	37 5 30	3063
nalhaut E.	47 6 40	3800	45 51 38	3840	44 37 17	3884	43 23 41	3932
egasi E.	66 11 55	3271	64 47 9	3279	63 22 33	3286	61 58 5	3294
s W.	100 24 4	3133	101 51 33	3134	103 19 1	3135	104 46 28	3135
ares W.	51 42 8	3073	53 10 51	3074	54 39 33	3072	56 8 17	3072
iter W.	44 30 18	3057	45 59 20	3056	47 28 24	3054	48 57 30	3052
urn W.	28 30 55	3099	29 59 6	3095	31 27 22	3091	32 55 43	3087
egasi E.	54 58 10	3338	53 34 43	3349	52 11 28	3360	50 48 26	3372
us E.	106 37 28	3143	105 10 10	3144	103 42 54	3146	102 15 40	3148
t E.	137 45 0	3464	136 23 56	3463	135 2 51	3462	133 41 44	3461
ares W.	63 32 13	3063	65 1 8	3061	66 30 5	3057	67 59 7	3054
iter W.	56 23 39	3039	57 53 4	3036	59 22 32	3032	60 52 5	3028
urn W.		066	41 47 33	3062	43 16 29	3057	44 45 31	3053
egasi E.			35 30	3466	41 14 28	3487	39 53 49	3510
us E.			10	3147	92 5 17	3146	90 38 3	3143
t E.				3	124 12 42	3439	122 51 10	3434
ares W.					24 48	3018	79 54 38	3011

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
9	Jupiter W.	62 21 43	3024	63 51 26	3018	65 21 16	3013	66 51
	Saturn W.	46 14 38	3047	47 43 53	3043	49 13 13	3036	50 42
	α Arietis E.	78 36 19	3066	77 7 28	3062	75 38 32	3058	74 9
	Venus E.	89 10 46	3142	87 43 27	3140	86 16 6	3137	84 48
	SUN E.	121 29 32	3430	120 7 49	3424	118 46 0	3419	117 24
10	Antares W.	81 24 37	3004	82 54 45	2996	84 25 3	2988	85 55
	Jupiter W.	74 22 42	2975	75 53 26	2968	77 24 19	2959	78 55
	Saturn W.	58 12 0	2995	59 42 19	2987	61 12 48	2979	62 43
	α Arietis E.	66 42 43	3022	65 12 58	3015	63 43 4	3008	62 13
	Venus E.	77 30 33	3113	76 2 39	3108	74 34 39	3101	73 6
	SUN E.	110 32 37	3376	109 9 53	3368	107 47 0	3359	106 23
11	Jupiter W.	86 33 35	2902	88 5 51	2891	89 38 21	2880	91 11
	Saturn W.	70 19 43	2919	71 51 38	2909	73 23 46	2896	74 56
	α Arietis E.	54 40 6	2984	53 8 56	2944	51 37 33	2935	50 5
	Venus E.	65 43 55	3060	64 14 56	3052	62 45 48	3043	61 16
	SUN E.	99 25 43	3295	98 1 26	3283	96 36 55	3271	95 12
12	Jupiter W.	98 58 45	2804	100 33 8	2790	102 7 49	2776	103 42
	Saturn W.	82 42 7	2819	84 16 10	2805	85 50 32	2791	87 25
	α Aquilæ W.	56 54 43	3780	58 10 6	3734	59 26 17	3690	60 43
	α Arietis E.	42 24 29	2866	40 51 27	2855	39 18 10	2842	37 44
	Venus E.	53 47 5	2988	52 16 37	2978	50 45 56	2967	49 15
	SUN E.	88 4 20	3187	86 37 55	3171	85 11 11	3155	83 44
13	Saturn W.	95 23 36	2697	97 0 20	2680	98 37 26	2663	100 14
	α Aquilæ W.	67 18 48	3462	68 39 55	3429	70 1 39	3397	71 23
	α Arietis E.	29 53 6	2775	28 18 5	2765	26 42 51	2757	25 7
	Venus E.	41 37 26	2909	40 5 18	2900	38 32 59	2892	37 0
	SUN E.	76 23 54	3053	74 54 47	3036	73 25 19	3018	71 55
14	α Aquilæ W.	78 24 12	3226	79 49 50	3201	81 15 58	3177	82 42
	Fomalhaut W.	53 6 56	3143	54 34 13	3102	56 2 20	3063	57 31
	α Pegasi W.	30 38 46	3282	32 3 19	3200	33 29 28	3127	34 57
	Venus E.	29 16 20	2872	27 43 25	2877	26 10 37	2887	24 38
	SUN E.	64 20 19	2904	62 48 5	2884	61 15 26	2865	59 42
15	α Aquilæ W.	90 2 20	3051	91 31 30	3034	93 1 1	3017	94 30
	Fomalhaut W.	65 7 2	2858	66 40 15	2828	68 14 6	2799	69 48
	α Pegasi W.	42 33 35	2802	44 8 1	2760	45 43 22	2722	47 19
	SUN E.	51 50 40	2748	50 15 4	2728	48 39 1	2710	47 2
16	Fomalhaut W.	77 49 30	2651	79 27 16	2630	81 5 30	2610	82 44
	α Pegasi W.	55 32 1	2529	57 12 34	2502	58 53 45	2477	60 35
	SUN E.	38 54 4	2601	37 15 10	2585	35 35 54	2569	33 56
21	SUN W.	31 2 12	2358	32 46 47	2365	34 31 12	2374	36
	Mars E.	80 37 16	2137	78 47 13	2145	76 57 22		
	Spica ♀ E.	80 47 1	2052	78 54 47	2059	77 2 45		
22	SUN W.	44 53 24	2431	46 36 14	2443	48 18		
	Spica ♀ E.	65 55 50	2133	64 5 41	2145	62 15		
	Mars E.	66 3 49	2223	64 15 56	2236	62 25		

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
			^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]	
9	Jupiter	W.	68 21 14	3002	69 51 24	2996	71 21 42	2990	72 52 7	2982
	Saturn	W.	52 12 16	3024	53 41 59	3017	55 11 51	3010	56 41 51	3003
	α Arietis	E.	72 40 23	3047	71 11 9	3042	69 41 48	3035	68 12 19	3030
	Venus	E.	83 21 13	3130	81 53 40	3127	80 26 3	3123	78 58 21	3118
	SUN	E.	116 2 3	3407	114 39 54	3400	113 17 37	3392	111 55 11	3385
10	Antares	W.	87 26 9	2971	88 56 58	2962	90 27 59	2951	91 59 13	2942
	Jupiter	W.	80 26 38	2942	81 58 4	2932	83 29 42	2923	85 1 32	2913
	Saturn	W.	64 14 18	2960	65 45 21	2951	67 16 35	2940	68 48 3	2931
	α Arietis	E.	60 42 48	2991	59 12 24	2983	57 41 50	2974	56 11 4	2964
	Venus	E.	71 38 17	3089	70 9 54	3083	68 41 23	3076	67 12 44	3068
	SUN	E.	105 0 42	3339	103 37 15	3329	102 13 37	3319	100 49 47	3307
11	Jupiter	W.	92 44 6	2856	94 17 21	2844	95 50 52	2831	97 24 40	2818
	Saturn	W.	76 28 48	2872	78 1 43	2859	79 34 54	2846	81 8 22	2833
	α Arietis	E.	48 34 9	2912	47 2 5	2901	45 29 48	2890	43 57 16	2878
	Venus	E.	59 46 59	3026	58 17 18	3017	56 47 26	3007	55 17 22	2997
	SUN	E.	93 47 8	3244	92 21 51	3230	90 56 17	3216	89 30 27	3202
12	Jupiter	W.	105 18 6	2747	106 53 44	2732	108 29 41	2717	110 5 58	2701
	Saturn	W.	89 0 12	2760	90 35 32	2745	92 11 12	2729	93 47 13	2713
	α Aquilæ	W.	62 0 57	3608	63 19 23	3569	64 38 31	3532	65 58 20	3497
	α Arietis	E.	36 10 49	2819	34 36 46	2807	33 2 27	2796	31 27 54	2785
	Venus	E.	47 43 56	2947	46 12 37	2937	44 41 5	2928	43 9 22	2918
	SUN	E.	82 16 46	3123	80 49 4	3105	79 21 1	3089	77 52 38	3072
13	Saturn	W.	101 52 46	2629	103 31 1	2612	105 9 40	2594	106 48 43	2577
	α Aquilæ	W.	72 46 55	3336	74 10 25	3307	75 34 28	3279	76 59 4	3252
	α Arietis	E.	23 31 53	2746	21 56 14	2744	20 20 33	2747	18 44 55	2755
	Venus	E.	35 27 52	2879	33 55 6	2874	32 22 14	2871	30 49 18	2870
	SUN	E.	70 25 13	2980	68 54 36	2961	67 23 34	2943	65 52 9	2923
14	α Aquilæ	W.	84 9 40	3131	85 37 12	3110	87 5 10	3089	88 33 33	3069
	Fomalhaut	W.	59 0 57	2989	60 31 24	2954	62 2 35	2920	63 34 28	2888
	α Pegasi	W.	36 26 3	3000	37 56 16	2944	39 27 39	2893	41 0 7	2846
	Venus	E.	23 5 44	2924	21 33 56	2957	20 2 49	3003	18 32 40	3068
	SUN	E.	58 8 53	2825	56 34 58	2805	55 0 37	2787	53 25 52	2766
15	α Aquilæ	W.	96 1 3	2988	97 31 31	2975	99 2 15	2964	100 33 13	2954
	Fomalhaut	W.	71 23 39	2746	72 59 18	2721	74 35 30	2697	76 12 14	2673
	α Pegasi	W.	48 56 33	2649	50 34 21	2617	52 12 52	2586	53 52 6	2556
	SUN	E.	45 25 41	2672	43 48 23	2654	42 10 41	2635	40 32 34	2618
16	Fomalhaut	W.	84 23 20	2572	86 2 53	2555	87 42 49	2539	89 23 8	2525
	α Pegasi	W.	62 17 52	2428	64 0 47	2406	65 44 13	2385	67 28 9	2366
	SUN	E.	32 16 17	2539	30 35 58	2525	28 55 20	2512	27 14 24	2501
21	SUN	W.	37 59 29	2389	39 43 19	2398	41 26 56	2409	43 10 18	2420
			73 18 26	2175	71 29 20	2186	69 40 32	2198	67 52 1	2211
			19 23	2088	71 28 5	2098	69 37 3	2109	67 46 18	2120
			57	2484	53 24 33	2497	55 5 50	2512	56 46 47	2527
			2184		56 48 18	2199	54 59 49	2213	53 11 41	2229
			q		57 7 46	2294	55 21 37	2309	53 35 51	2324

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^b .	P.L. of diff.	VI ^b .	P.L. of diff.	IX ^b .	P.L. of diff.
22	Jupiter E.	117 14 54	2112	115 24 13	2123	113 33 49	2136	111 43 45	2147
23	SUN W.	58 27 23	2542	60 7 38	2558	61 47 31	2573	63 27 3	2588
	Spica π E.	51 23 56	2243	49 36 33	2258	47 49 32	2274	46 2 54	2289
	Mars E.	51 50 27	2341	50 5 27	2357	48 20 51	2374	46 36 39	2389
	Jupiter E.	102 38 15	2216	100 50 11	2231	99 2 29	2245	97 15 9	2259
	Saturn E.	119 27 7	2228	117 39 21	2242	115 51 56	2257	114 4 53	2271
24	SUN W.	71 39 13	2670	73 16 33	2688	74 53 29	2704	76 30 4	2720
	Regulus W.	17 3 50	2387	18 47 44	2397	20 31 23	2409	22 14 45	2420
	Spica π E.	37 15 38	2372	35 31 23	2389	33 47 33	2407	32 4 8	2420
	Mars E.	38 1 51	2481	36 20 11	2500	34 38 58	2520	32 58 12	2538
	Antares E.	83 0 10	2356	81 15 32	2372	79 31 17	2388	77 47 25	2404
	Jupiter E.	88 24 4	2337	86 38 59	2353	84 54 17	2369	83 9 57	2384
	Saturn E.	105 15 4	2346	103 30 12	2363	101 45 44	2378	100 1 37	2393
25	SUN W.	84 27 23	2805	86 1 45	2821	87 35 45	2837	89 9 25	2853
	Regulus W.	30 46 48	2492	32 28 12	2507	34 9 16	2521	35 50 0	2536
	Antares E.	69 13 39	2482	67 32 0	2497	65 50 43	2512	64 9 47	2527
	Jupiter E.	74 34 0	2464	72 51 56	2480	71 10 14	2495	69 28 54	2510
	Saturn E.	91 26 38	2472	89 44 45	2486	88 3 12	2502	86 22 2	2516
26	SUN W.	96 52 31	2934	98 24 7	2948	99 55 25	2963	101 26 24	2978
	Regulus W.	44 8 39	2607	45 47 24	2621	47 25 50	2635	49 3 58	2649
	Antares E.	55 50 21	2602	54 11 28	2616	52 32 55	2629	50 54 40	2643
	Jupiter E.	61 7 37	2588	59 28 25	2602	57 49 33	2617	56 11 1	2631
	Saturn E.	78 1 21	2591	76 22 14	2605	74 43 26	2620	73 4 58	2634
27	SUN W.	108 56 45	3049	110 25 57	3062	111 54 53	3076	113 23 32	3090
	Regulus W.	57 10 6	2714	58 46 28	2726	60 22 34	2738	61 58 24	2750
	Antares E.	42 48 2	2710	41 11 35	2722	39 35 24	2734	37 59 29	2746
	Jupiter E.	48 3 16	2704	46 26 41	2717	44 50 24	2732	43 14 27	2744
	Saturn E.	64 57 15	2701	63 20 36	2714	61 44 14	2726	60 8 9	2738
	α Aquilæ E.	96 45 49	3345	95 22 30	3356	93 59 23	3365	92 36 26	3374
28	SUN W.	120 42 56	3150	122 10 5	3161	123 37 1	3172	125 3 44	3183
	Regulus W.	69 53 45	2805	71 28 6	2816	73 2 13	2826	74 36 7	2837
	Antares E.	30 3 46	2802	28 29 21	2813	26 55 10	2823	25 21 12	2833
	Jupiter E.	35 19 16	2817	33 45 10	2832	32 11 24	2847	30 37 57	2860
	Saturn E.	52 11 46	2798	50 37 16	2809	49 3 0	2821	47 28 59	2833
	α Aquilæ E.	85 44 52	3436	84 23 16	3449	83 1 55	3464	81 40 51	3477
29	SUN W.	132 14 4	3235	133 39 32	3244	135 4 49	3253	136 29 55	3262
	Regulus W.	82 22 33	2882	83 55 15	2890	85 27 47	2898	87 0 8	2906
	Spica π W.	28 24 7	2902	29 56 23	2909	31 28 31	2916	33 0 30	2923
	Mars W.	26 18 46	3055	27 47 51	3058	29 16 52	3063	30 45 47	3068
	Saturn E.	39 42 28	2886	38 9 51	2897	36 37 28	2908	35 5 19	2918
	α Aquilæ E.	74 59 55	3565	73 40 42	3585	72 21 51	3604	71 3 21	3623
30	Regulus W.	94 39 26	2943	96 10 50	2950	97 42 6	2957	99 13 13	2964
	Spica π W.	40 38 26	2953	42 9 38	2959	43 40 42	2965	45 11 39	2971
	Mars W.	38 8 51	3094	39 37 8	3100	41 5 18	3105	42 33 22	3111
	Saturn E.	27 28 11	2979	25 57 32	2993	24 27 10	3009	22 57 8	3023
	Fomalhaut E.	87 41 29	3301	86 17 19	3309	84 53 18	3318	83 29 27	3326

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
22	Jupiter	E.	109 53 59	2161	108 4 32	2175	106 15 26	2188	104 26 40	2202
23	SUN	W.	65 6 13	2604	66 45 2	2621	68 23 28	2638	70 1 32	2655
	Spica μ	E.	44 16 39	2306	42 30 48	2322	40 45 21	2338	39 0 17	2355
	Mars	E.	44 52 51	2308	43 9 28	2426	41 26 30	2444	39 43 58	2462
	Jupiter	E.	95 28 11	2276	93 41 36	2290	91 55 22	2306	90 9 32	2322
	Saturn	E.	112 18 11	2286	110 31 51	2301	108 45 53	2316	107 0 17	2332
24	SUN	W.	78 6 16	2738	79 42 5	2754	81 17 33	2771	82 52 39	2788
	Regulus	W.	23 57 49	2436	25 40 33	2449	27 22 58	2463	29 5 3	2477
	Spica μ	E.	30 21 8	2442	28 38 33	2461	26 56 25	2480	25 14 43	2500
	Mars	E.	31 17 53	2560	29 38 3	2581	27 58 42	2604	26 19 52	2627
	Antares	E.	76 3 55	2419	74 20 48	2435	72 38 3	2450	70 55 40	2466
	Jupiter	E.	81 26 1	2401	79 42 27	2416	77 59 15	2433	76 16 27	2448
	Saturn	E.	98 17 53	2409	96 34 31	2425	94 51 32	2440	93 8 54	2455
25	SUN	W.	90 42 43	2870	92 15 40	2886	93 48 17	2902	95 20 34	2917
	Regulus	W.	37 30 24	2550	39 10 27	2564	40 50 11	2579	42 29 35	2593
	Antares	E.	62 29 13	2543	60 48 59	2558	59 9 6	2573	57 29 34	2587
	Jupiter	E.	67 47 56	2527	66 7 20	2542	64 27 5	2557	62 47 11	2572
	Saturn	E.	84 41 12	2532	83 0 43	2548	81 20 36	2562	79 40 49	2576
26	SUN	W.	102 57 5	2993	104 27 26	3007	105 57 30	3021	107 27 17	3036
	Regulus	W.	50 41 47	2662	52 19 18	2675	53 56 32	2688	55 33 28	2701
	Antares	E.	49 16 45	2657	47 39 7	2671	46 1 48	2684	44 24 46	2697
	Jupiter	E.	54 32 48	2646	52 54 56	2661	51 17 23	2675	49 40 10	2690
	Saturn	E.	71 26 48	2648	69 48 58	2661	68 11 25	2675	66 34 11	2688
27	SUN	W.	114 51 55	3101	116 20 3	3114	117 47 55	3126	119 15 33	3138
	Regulus	W.	63 33 58	2761	65 9 17	2772	66 44 21	2784	68 19 10	2795
	Antares	E.	36 23 51	2757	34 48 27	2769	33 13 19	2781	31 38 26	2791
	Jupiter	E.	41 38 47	2760	40 3 27	2774	38 28 25	2788	36 53 41	2802
	Saturn	E.	58 32 21	2750	56 56 48	2763	55 21 32	2775	53 46 31	2787
	α Aquilæ	E.	91 13 41	3386	89 51 9	3397	88 28 49	3409	87 6 43	3422
28	SUN	W.	126 30 13	3194	127 56 29	3204	129 22 33	3215	130 48 24	3225
	Regulus	W.	76 9 49	2845	77 43 18	2855	79 16 35	2864	80 49 40	2873
	Antares	E.	23 47 26	2842	22 13 53	2852	20 40 33	2861	19 7 24	2870
	Jupiter	E.	29 4 51	2880	27 32 6	2897	25 59 43	2916	24 27 45	2937
	Saturn	E.	45 55 13	2843	44 21 41	2854	42 48 23	2864	41 15 18	2875
	α Aquilæ	E.	80 20 4	3494	78 59 33	3511	77 39 21	3529	76 19 29	3545
29	SUN	W.	137 54 50	3271	139 19 36	3280	140 44 11	3288	142 8 36	3296
	Regulus	W.	88 32 19	2915	90 4 19	2921	91 36 11	2929	93 7 53	2936
	Spica μ	W.	34 32 21	2928	36 4 4	2934	37 35 39	2940	39 7 7	2947
	Mars	W.	32 14 37	3073	33 43 20	3078	35 11 57	3083	36 40 27	3088
	Saturn	E.	33 33 24	2931	32 1 44	2941	30 30 17	2954	28 59 6	2966
	α Aquilæ	E.	69 45 14	3648	68 27 31	3672	67 10 14	3695	65 53 22	3720
30	Regulus	W.	100 44 13	2969	102 15 5	2975	103 45 49	2981	105 16 26	2987
	Spica μ	W.	46 42 28	2976	48 13 11	2981	49 43 47	2987	51 14 16	2992
	Mars	W.	44 1 19	3115	45 29 10	3121	46 56 54	3126	48 24 32	3131
	Saturn	E.	21 27 27	3046	19 58 11	3068	18 29 22	3094	17 1 5	3127
	Fomalhaut	E.	82 5 46	3334	80 42 14	3344	79 18 54	3353	77 55 44	3363

CONFIGURATIONS OF THE SATELLITES OF JUPITER

At 11^h 30^m, MEAN TIME.

Day of the Month.	West.	East.
1	4	○ 1 2 3
2	4 2	1 ○ 3
3	1 ○	2 4 ○ 3
4		3 ○ 1 4 2
5	3	1 ○ 4
6	3 2	○ 1 4
7		1 3 ○ 2 4
8		○ 1 2 3 4
9		2 1 ○ 3 4
10		2 ○ 1 3 4
11	1 ●	3 ○ 4 2
12		3 4 1 2 ○
13	4 3	2 ○ 1
14	4	1 3 ○ 2
15	4	○ 1 2 3
16	4	2 1 ○ 3
17	4	2 ○ 1 3
18	4	3 ○ 1 2
19	3 4	1 ○ 2
20	3 2	○ 4 1
21	2 ●	1 3 ○ 4
22		○ 1 3 2 4
23		1 2 ○ 3 4
24		2 ○ 1 3 4
25		1 ○ 2 4
26	1 ○	3 ○ 2 4
27	3 2	○ 1 4
28	2 ●	3 1 4 ○
29		4 ○ 3 2
30	4	1 2 ○ 3

This Table represents, at 11^h 30^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page. Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of the Satellites' motions, which are in all cases to be considered as *towards the numerals*. When a Satellite at its greatest elongation, the point is placed above or below the centre of the numeral. A circle (○) at the left or right hand of the page, denotes that the Satellite placed by the side of the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *shadow* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

SATELLITE.	Day of the Month.	Mean Time.			Sidereal Time.			PHASE as seen in an inverting Telescope.
		h	m	s	h	m	s	
I.	2*	14	0	47.4	18	46	13.2	Im.
	7	23	36	30.9	4	43	14.1	Em.
	9	18	5	11.4	23	18	53.3	Em.
	11*	12	33	47.3	17	54	27.8	Em.
	13	7	2	29.5	12	30	8.7	Em.
	15	1	31	4.6	7	5	42.4	Em.
	16	19	59	46.5	1	41	23.0	Em.
	18	14	28	23.8	20	16	59.1	Em.
	20	8	57	7.4	14	52	41.4	Em.
	22	3	25	44.0	9	28	16.7	Em.
	23	21	54	27.1	4	3	58.4	Em.
	25	16	23	6.0	22	39	36.0	Em.
	27*	10	51	50.9	17	15	19.6	Em.
	29	5	20	29.0	11	50	56.4	Em.
	30	23	49	13.1	6	26	39.2	Em.
I.	3	15	21	58.9	20	11	34.6	Im.
	7	7	9	40.4	12	13	41.5	Em.
	10	20	27	0.5	1	45	2.2	Em.
	14*	9	44	24.3	15	16	26.6	Em.
	17	23	1	51.0	4	47	54.1	Em.
	21*	12	19	22.8	18	19	26.6	Em.
	25	1	36	55.9	7	51	0.3	Em.
	28	14	54	36.3	21	22	41.4	Em.
II.	7	17	2	12.2	22	7	50.6	Em.
	14	21	2	16.3	2	36	10.1	Em.
	22	1	1	49.2	7	3	58.2	Em.
	29	5	1	22.6	11	31	46.8	Em.

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
I.	d h m In the Shadow.	d h m	d h m	d h m	d h m	d h
	4 13 21	2 21 3	1 21 28	1 23 42	1 21 23	1 23 3
	6 7 55	4* 15 35	3* 16 1	3* 18 15	3* 15 58	3* 18 1
	7 2 27	6 10 8	5 10 34	5 12 48	5 10 33	5 12 4
	9 21 1		7 5 7	7 7 21	7 5 9	7 7 2
	11* 15 33		8 23 40	8 1 54	8 23 44	8 1 5
	13 10 7		10* 18 13	10 20 27	10* 18 20	10 20 3
	14 4 40	In	12 12 45	12* 14 59	12 12 55	12* 15 1
	16 23 13		14 7 18	14 9 32	14 7 31	14 9 4
	18* 17 46		15 1 51	15 4 5	15 2 6	15 4 2
	20 12 19	the	17 20 24	17 22 38	17 20 42	17 22 5
	22 6 52		19 14 57	19* 17 12	19 15 17	19* 17 3
	23 1 25	Shadow.	21 9 30	21 11 45	21 9 53	21 12
	25 19 59		22 4 3	23 6 18	22 4 28	23 6 4
	27 14 32		24 22 37	24 0 51	24 23 4	24 1 1
	29 9 5		26* 17 10	26* 19 24	26* 17 40	26 19 5
	30 3 38		28 11 43	28 13 57	28 12 15	28 14 3
			29 6 16	30 8 30	30 6 51	30 9
II.	d h m In the Shadow.	d h m	d h m	d h m	d h m	d h
	7 9 36	3 22 49	1 1 54	1 4 28	1 1 43	1 4 1
	10 22 57		5* 15 15	5* 17 49	5* 15 14	5* 17 5
	14 12 18	In	8 4 38	9 7 12	8 4 47	9 7 2
	17 1 39	the	12* 18 0	12 20 34	12* 18 19	12 20 5
	21 15 0	Shadow.	16 7 22	16 9 56	16 7 52	16 10 2
	24 4 22		19 20 44	19 23 18	19 21 24	19 0
	28* 17 44		23 10 7	23 12 41	23 10 56	23 13 3
			26 23 29	26 2 4	26 0 28	26 3
III.	d h m	d h m	d h m	d h m	d h m	d h
	7* 19 22	In	4 5 35	4 8 10	4 5 23	4 8
	14 23 7	the	11 9 19	11 11 55	11 9 49	11 12 1
	21 2 53	Shadow.	18 13 4	18* 15 41	18 14 16	18* 17
	29 6 40		25* 16 51	25* 19 29	25* 18 43	25 21

Day of the Month.	For correcting the Places of the Fixed Stars. At Mean Midnight,				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^s .809526, Days.	From Mean Noon of January 1.	
	Logarithm of						Day of the Year.	Fraction of the Year.
	A	B	C	D				
1	-0.7788	-1.2851	+9.8129	-0.7627	19 17 38.73	70	151	.413
2	0.7569	1.2875	9.8153	0.7615	19 13 42.82	71	152	.416
3	0.7337	1.2897	9.8177	0.7602	19 9 46.91	72	153	.419
4	-0.7090	-1.2918	+9.8202	-0.7590	19 5 51.00	73	154	.422
5	0.6827	1.2938	9.8226	0.7578	19 1 55.08	74	155	.424
6	0.6546	1.2957	9.8250	0.7567	18 57 59.17	75	156	.427
7	-0.6244	-1.2975	+9.8273	-0.7556	18 54 3.26	76	157	.430
8	0.5919	1.2991	9.8297	0.7545	18 50 7.35	77	158	.433
9	0.5566	1.3006	9.8321	0.7535	18 46 11.44	78	159	.435
10	-0.5181	-1.3019	+9.8345	-0.7525	18 42 15.52	79	160	.438
11	0.4756	1.3031	9.8369	0.7516	18 38 19.61	80	161	.441
12	0.4284	1.3042	9.8392	0.7507	18 34 23.70	81	162	.444
13	-0.3754	-1.3052	+9.8416	-0.7498	18 30 27.79	82	163	.446
14	0.3148	1.3061	9.8439	0.7490	18 26 31.87	83	164	.449
15	0.2442	1.3069	9.8462	0.7482	18 22 35.96	84	165	.452
16	-0.1598	-1.3075	+9.8486	-0.7475	18 18 40.05	85	166	.454
17	0.0547	1.3080	9.8509	0.7468	18 14 44.14	86	167	.457
18	9.9157	1.3084	9.8532	0.7462	18 10 48.22	87	168	.460
19	-9.7098	-1.3086	+9.8555	-0.7456	18 6 52.31	88	169	.463
20	-9.3047	1.3088	9.8578	0.7451	18 2 56.40	89	170	.465
21	+9.0388	1.3088	9.8600	0.7446	17 59 0.48	90	171	.468
22	+9.6235	-1.3087	+9.8623	-0.7441	17 55 4.57	91	172	.471
23	9.8639	1.3085	9.8646	0.7437	17 51 8.66	92	173	.474
24	0.0177	1.3081	9.8668	0.7433	17 47 12.75	93	174	.476
25	+0.1309	-1.3076	+9.8690	-0.7430	17 43 16.83	94	175	.479
26	0.2205	1.3071	9.8712	0.7428	17 39 20.92	95	176	.482
27	0.2946	1.3064	9.8734	0.7426	17 35 25.01	96	177	.485
28	+0.3578	-1.3055	+9.8756	-0.7424	17 31 29.10	97	178	.487
29	0.4129	1.3046	9.8777	0.7423	17 27 33.18	98	179	.490
30	0.4616	1.3035	9.8799	0.7422	17 23 37.27	99	180	.493
31	+0.5053	-1			17 19 41.36	100	181	.496

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to Apparent Time.	Diff. for 1 hour
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.			
		h m s	s	° ' "	"	m s	m s	s
Thur.	1	6 40 53·91	10·332	N.23 7 41·3	10·60	1 8·70	3 25·50	0·47
Frid.	2	6 45 1·88	10·320	23 3 26·8	11·61	1 8·66	3 36·88	0·46
Sat.	3	6 49 9·57	10·308	22 58 48·1	12·61	1 8·62	3 47·98	0·45
Sun.	4	6 53 16·96	10·295	22 53 45·5	13·60	1 8·58	3 58·78	0·44
Mon.	5	6 57 24·03	10·282	22 48 19·0	14·60	1 8·53	4 9·27	0·43
Tues.	6	7 1 30·79	10·267	22 42 28·7	15·58	1 8·48	4 19·44	0·41
Wed.	7	7 5 37·20	10·252	22 36 14·8	16·56	1 8·43	4 29·27	0·39
Thur.	8	7 9 43·26	10·237	22 29 37·3	17·54	1 8·38	4 38·74	0·37
Frid.	9	7 13 48·94	10·220	22 22 36·4	18·50	1 8·32	4 47·84	0·36
Sat.	10	7 17 54·23	10·203	22 15 12·4	19·46	1 8·26	4 56·54	0·34
Sun.	11	7 21 59·11	10·186	22 7 25·3	20·42	1 8·20	5 4·84	0·33
Mon.	12	7 26 3·57	10·168	21 59 15·3	21·36	1 8·14	5 12·73	0·31
Tues.	13	7 30 7·60	10·149	21 50 42·6	22·30	1 8·08	5 20·18	0·29
Wed.	14	7 34 11·18	10·129	21 41 47·3	23·23	1 8·01	5 27·18	0·27
Thur.	15	7 38 14·28	10·109	21 32 29·7	24·15	1 7·94	5 33·71	0·25
Frid.	16	7 42 16·90	10·088	21 22 50·1	25·07	1 7·87	5 39·75	0·23
Sat.	17	7 46 19·00	10·066	21 12 48·5	25·96	1 7·80	5 45·28	0·21
Sun.	18	7 50 20·59	10·044	21 2 25·4	26·85	1 7·73	5 50·30	0·19
Mon.	19	7 54 21·65	10·021	20 51 40·9	27·73	1 7·65	5 54·79	0·18
Tues.	20	7 58 22·15	9·998	20 40 35·3	28·61	1 7·57	5 58·72	0·16
Wed.	21	8 2 22·09	9·974	20 29 8·7	29·47	1 7·49	6 2·09	0·14
Thur.	22	8 6 21·47	9·949	20 17 21·5	30·31	1 7·41	6 4·90	0·13
Frid.	23	8 10 20·25	9·925	20 5 14·0	31·15	1 7·33	6 7·13	0·11
Sat.	24	8 14 18·44	9·900	19 52 46·5	31·97	1 7·25	6 8·76	0·10
Sun.	25	8 18 16·03	9·874	19 39 59·1	32·79	1 7·17	6 9·78	0·09
Mon.	26	8 22 13·01	9·848	19 26 52·2	33·59	1 7·09	6 10·20	0·08
Tues.	27	8 26 9·37	9·822	19 13 26·0	34·38	1 7·00	6 10·00	0·07
Wed.	28	8 30 5·11	9·797	18 59 40·8	35·16	1 6·92	6 9·19	0·06
Thur.	29	8 34 0·23	9·771	18 45 37·0	35·93	1 6·84	6 7·76	0·05
Frid.	30	8 37 54·74	9·745	18 31 14·6	36·68	1 6·75	6 5·7	0·04
Sat.	31	8 41 48·63	9·720	18 16 34·2	37·43	1 6·67	6 3·0	0·03
Sun.	32	8 45 41·91		N.18 1 35·8		1 6·58	5 59·80	

* Mean Time of the Semidiameter passing may be found by subtracting 0·19 from the Sid.

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be subtracted from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
Thur.	1	6 40 53.32	N.23 7 41.8	15 45.1	3 25.47	6 37 27.85
Frid.	2	6 45 1.26	23 3 27.4	15 45.1	3 36.85	6 41 24.41
Sat.	3	6 49 8.92	22 58 48.9	15 45.1	3 47.95	6 45 20.96
Sun.	4	6 53 16.28	22 53 46.4	15 45.1	3 58.75	6 49 17.52
Mon.	5	6 57 23.32	22 48 20.0	15 45.1	4 9.24	6 53 14.08
Tues.	6	7 1 30.05	22 42 29.8	15 45.1	4 19.41	6 57 10.64
Wed.	7	7 5 36.43	22 36 15.9	15 45.1	4 29.24	7 1 7.20
Thur.	8	7 9 42.46	22 29 38.6	15 45.1	4 38.71	7 5 3.76
Frid.	9	7 13 48.12	22 22 37.9	15 45.2	4 47.81	7 9 0.31
Sat.	10	7 17 53.39	22 15 14.0	15 45.2	4 56.52	7 12 56.87
Sun.	11	7 21 58.25	22 7 27.0	15 45.2	5 4.82	7 16 53.43
Mon.	12	7 26 2.69	21 59 17.1	15 45.3	5 12.70	7 20 49.99
Tues.	13	7 30 6.70	21 50 44.5	15 45.3	5 20.15	7 24 46.55
Wed.	14	7 34 10.26	21 41 49.4	15 45.4	5 27.15	7 28 43.10
Thur.	15	7 38 13.34	21 32 31.9	15 45.4	5 33.68	7 32 39.66
Frid.	16	7 42 15.94	21 22 52.4	15 45.5	5 39.72	7 36 36.22
Sat.	17	7 46 18.03	21 12 50.9	15 45.5	5 45.26	7 40 32.78
Sun.	18	7 50 19.61	21 2 28.0	15 45.6	5 50.28	7 44 29.33
Mon.	19	7 54 20.66	20 51 43.6	15 45.7	5 54.77	7 48 25.89
Tues.	20	7 58 21.15	20 40 38.1	15 45.7	5 58.70	7 52 22.45
Wed.	21	8 2 21.09	20 29 11.6	15 45.8	6 2.08	7 56 19.01
Thur.	22	8 6 20.46	20 17 24.6	15 45.9	6 4.89	8 0 15.56
Frid.	23	8 10 19.24	20 5 17.2	15 46.0	6 7.12	8 4 12.12
Sat.	24	8 14 17.43	19 52 49.7	15 46.1	6 8.75	8 8 8.68
Sun.	25	8 18 15.01	19 40 2.4	15 46.2	6 9.78	8 12 5.24
Mon.	26	8 22 11.99	19 26 55.6	15 46.3	6 10.20	8 16 1.79
Tues.	27	8 26 8.35	19 13 29.5	15 46.5	6 10.00	8 19 58.35
Wed.	28	8 30 4.10	18 59 44.4	15 46.6	6 9.19	8 23 54.91
Thur.	29	8 33 59.23	18 45 40.6	15 46.7	6 7.77	8 27 51.46
Frid.			18 31 18.3	15 46.8	6 5.73	8 31 48.02
Sat.			18 16 37.9	15 47.0	6 3.07	8 35 44.58
Sun.			17 39.6	15 47.1	5 59.81	8 39 41.13

* be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	99 23 34 ¹	S. 0° 79'	0° 0072187	14 51 ¹	14 48 ⁶	54 30 ⁰	54 21 ⁰
2	100 20 44 ⁶	0° 72'	0° 0072180	14 46 ⁶	14 44 ⁸	54 13 ⁴	54 6 ⁹
3	101 17 55 ⁰	0° 62'	0° 0072160	14 43 ⁴	14 42 ⁵	54 2 ⁰	53 58 ⁵
4	102 15 54	0° 51'	0° 0072126	14 41 ⁹	14 41 ⁷	53 56 ³	53 55 ⁵
5	103 12 15 ⁸	0° 37'	0° 0072077	14 41 ⁹	14 42 ⁵	53 56 ²	53 58 ⁴
6	104 9 26 ⁵	0° 24'	0° 0072012	14 43 ⁵	14 45 ⁰	54 2 ¹	54 7 ⁵
7	105 6 37 ⁵	S. 0° 12'	0° 0071932	14 46 ⁹	14 49 ³	54 14 ⁶	54 23 ⁶
8	106 3 48 ⁹	0° 00'	0° 0071837	14 52 ²	14 55 ⁶	54 34 ⁰	54 46 ⁶
9	107 1 07	N. 0° 10'	0° 0071725	14 59 ⁶	15 4 ²	55 1 ⁴	55 18 ¹
10	107 58 13 ⁰	0° 18'	0° 0071594	15 9 ²	15 14 ⁸	55 36 ⁶	55 57 ²
11	108 55 25 ⁸	0° 24'	0° 0071444	15 21 ⁰	15 27 ⁶	56 19 ⁸	56 44 ⁰
12	109 52 39 ²	0° 26'	0° 0071273	15 34 ⁶	15 41 ⁹	57 9 ⁷	57 36 ⁷
13	110 49 53 ³	0° 25'	0° 0071080	15 49 ⁶	15 57 ³	58 4 ⁶	58 33 ⁰
14	111 47 8 ⁰	0° 22'	0° 0070865	16 5 ⁰	16 12 ⁴	59 1 ¹	59 28 ⁴
15	112 44 23 ³	0° 15'	0° 0070626	16 19 ⁴	16 25 ⁹	59 54 ²	60 17 ⁹
16	113 41 39 ²	N. 0° 06'	0° 0070363	16 31 ⁶	16 36 ³	60 38 ⁸	60 56 ⁰
17	114 38 55 ⁶	S. 0° 05'	0° 0070073	16 39 ⁸	16 42 ²	61 9 ¹	61 17 ⁷
18	115 36 12 ⁶	0° 17'	0° 0069758	16 43 ²	16 42 ⁸	61 21 ⁴	61 20 ⁰
19	116 33 30 ²	0° 31'	0° 0069417	16 41 ¹	16 38 ¹	61 13 ⁸	61 2 ⁹
20	117 30 48 ²	0° 44'	0° 0069051	16 34 ⁰	16 28 ⁷	60 47 ⁶	60 28 ⁴
21	118 28 6 ⁷	0° 57'	0° 0068660	16 22 ⁶	16 15 ⁹	60 6 ⁰	59 41 ¹
22	119 25 25 ⁸	0° 68'	0° 0068244	16 8 ⁶	16 1 ⁰	59 14 ⁴	58 46 ⁵
23	120 22 45 ²	0° 78'	0° 0067804	15 53 ³	15 45 ⁶	58 18 ³	57 50 ²
24	121 20 51	0° 86'	0° 0067342	15 38 ¹	15 30 ⁹	57 22 ⁷	56 56 ¹
25	122 17 25 ⁴	0° 90'	0° 0066858	15 24 ¹	15 17 ⁷	56 31 ²	56 7 ⁸
26	123 14 46 ¹	0° 92'	0° 0066354	15 11 ⁹	15 6 ⁵	55 46 ³	55 26 ⁷
27	124 12 7 ³	0° 90'	0° 0065832	15 1 ⁸	14 57 ⁵	55 9 ²	54 53 ⁶
28	125 9 29 ⁰	0° 85'	0° 0065293	14 53 ⁸	14 50 ⁶	54 39 ⁹	54 28 ⁴
29	126 6 51 ²	0° 78'	0° 0064739	14 48 ⁰	14 45 ⁸	54 18 ⁶	54 10 ⁸
30	127 4 14 ¹	0° 69'	0° 0064170	14 44 ²	14 42 ⁹	54 4 ⁶	
31	128 1 37 ⁷	0° 57'	0° 0063587	14 42 ¹	14 41 ⁸	53 57 ¹	
32	128 59 2 ²	S. 0° 44'	0° 0062992	14 41 ⁸	14 42 ²	53	

MEAN TIME.

THE MOON'S

Day of the Week.	Day of the Month.	THE MOON'S					
		Longitude.		Latitude.		Age.	Meridian
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.
		[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	^d	^h ^m
Thur.	1	254 25 16.4	260 26 50.4	S. 4 15 47.4	S. 3 55 31.8	12.2	10 34.8
Frid.	2	266 26 33.4	272 24 40.3	3 32 45.1	3 7 42.9	13.2	11 26.2
Sat.	3	278 21 24.4	284 17 0.4	2 40 42.3	2 12 0.7	14.2	12 16.3
Sun.	4	290 11 43.0	296 5 48.8	1 41 56.3	1 10 47.1	15.2	13 4.1
Mon.	5	301 59 35.6	307 53 21.6	S. 0 38 52.5	S. 0 6 30.8	16.2	13 49.4
Tues.	6	313 47 27.6	319 42 15.8	N. 0 25 58.2	N. 0 58 16.1	17.2	14 32.4
Wed.	7	325 38 10.1	331 35 36.5	1 30 3.0	2 1 0.4	18.2	15 13.8
Thur.	8	337 35 2.5	343 36 57.1	2 30 49.4	2 59 10.8	19.2	15 54.4
Frid.	9	349 41 50.4	355 50 13.8	3 25 45.1	3 50 13.6	20.2	16 35.3
Sat.	10	2 2 38.9	8 19 36.6	4 12 16.5	4 31 35.0	21.2	17 17.7
Sun.	11	14 41 37.5	21 9 10.6	4 47 49.1	5 0 40.5	22.2	18 3.0
Mon.	12	27 42 41.3	34 22 31.8	5 9 50.0	5 15 0.2	23.2	18 52.3
Tues.	13	41 8 58.3	48 2 11.3	5 15 54.6	5 12 20.0	24.2	19 46.9
Wed.	14	55 2 12.7	62 8 55.1	5 4 5.2	4 51 4.5	25.2	20 46.9
Thur.	15	69 22 2.5	76 41 5.9	4 33 17.3	4 10 49.3	26.2	21 51.3
Frid.	16	84 5 27.4	91 34 16.7	3 43 53.7	3 12 52.7	27.2	22 57.2
Sat.	17	99 6 36.8	106 41 20.2	2 38 15.1	2 0 37.9	28.2	♂
Sun.	18	114 17 17.6	121 53 14.5	N. 1 20 45.2	N. 0 39 25.1	29.2	0 1.4
Mon.	19	129 27 59.7	137 0 22.2	S. 0 2 31.2	S. 0 44 12.8	0.9	1 1.5
Tues.	20	144 29 20.2	151 53 56.7	1 24 50.7	2 3 38.5	1.9	1 57.1
Wed.	21	159 13 27.3	166 27 14.2	2 39 57.1	3 13 12.4	2.9	2 48.6
Thur.	22	173 34 52.7	180 36 6.7	3 42 58.0	4 8 54.0	3.9	3 37.3
Frid.	23	187 30 50.0	194 19 3.6	4 30 47.0	4 48 28.8	4.9	4 24.6
Sat.	24	201 0 56.7	207 36 43.9	5 1 56.6	5 11 11.3	5.9	5 11.7
Sun.	25	214 6 44.7	220 31 21.4	5 16 17.3	5 17 21.4	6.9	5 59.5
Mon.	26	226 51 0.0	233 6 7.1	5 14 32.5	5 8 0.6	7.9	6 48.7
Tues.	27	239 17 10.4	245 24 38.5	4 57 57.7	4 44 35.9	8.9	7 39.3
Wed.	28	251 28 58.5	257 30 37.8	4 28 8.6	4 8 49.5	9.9	8 30.8
Thur.	29	263 30 2.5	269 27 37.7	3 46 54.1	3 22 36.6	10.9	9 22.4
		46.7	281 18 52.0	2 56 13.4	2 28 0.6	11.9	10 12.8
		1.5	293 7 14.4	1 58 15.8	1 27 16.4	12.9	11 1.3
			74 55 19.7	S. 0 55 21.2	S. 0 22 48.8	13.9	11 47.5

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 1.				SATURDAY 3.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	16 50 10.05	S. 26 47 4.4	19.77	0	18 37 8.44	S. 25 52 14.6	42
1	16 52 24.94	26 49 3.0	18.43	1	18 39 19.20	25 47 57.3	44
2	16 54 39.86	26 50 53.6	17.08	2	18 41 29.77	25 43 32.8	45
3	16 56 54.79	26 52 36.1	15.73	3	18 43 40.16	25 39 1.1	46
4	16 59 9.73	26 54 10.5	14.40	4	18 45 50.35	25 34 22.2	47
5	17 1 24.68	26 55 36.9	13.05	5	18 48 0.34	25 29 36.1	48
6	17 3 39.64	26 56 55.2	11.72	6	18 50 10.14	25 24 43.0	50
7	17 5 54.59	26 58 5.5	10.35	7	18 52 19.74	25 19 42.7	51
8	17 8 9.53	26 59 7.6	9.02	8	18 54 29.14	25 14 35.4	52
9	17 10 24.46	27 0 1.7	7.68	9	18 56 38.33	25 9 21.2	53
10	17 12 39.38	27 0 47.8	6.33	10	18 58 47.31	25 3 59.9	54
11	17 14 54.27	27 1 25.8	4.98	11	19 0 56.08	24 58 31.8	55
12	17 17 9.14	27 1 55.7	3.65	12	19 3 4.63	24 52 56.8	56
13	17 19 23.98	27 2 17.6	2.30	13	19 5 12.97	24 47 15.0	57
14	17 21 38.78	27 2 31.4	0.97	14	19 7 21.10	24 41 26.4	58
15	17 23 53.54	27 2 37.2	0.37	15	19 9 29.00	24 35 31.0	60
16	17 26 8.26	27 2 35.0	1.72	16	19 11 36.68	24 29 29.0	61
17	17 28 22.92	27 2 24.7	3.03	17	19 13 44.14	24 23 20.3	62
18	17 30 37.54	27 2 6.5	4.38	18	19 15 51.38	24 17 4.9	63
19	17 32 52.09	27 1 40.2	5.72	19	19 17 58.38	24 10 43.0	64
20	17 35 6.58	27 1 5.9	7.03	20	19 20 5.16	24 4 14.6	65
21	17 37 21.01	27 0 23.7	8.37	21	19 22 11.71	23 57 39.7	66
22	17 39 35.36	26 59 33.5	9.70	22	19 24 18.02	23 50 58.4	67
23	17 41 49.63	S. 26 58 35.3	11.02	23	19 26 24.11	S. 23 44 10.6	69
FRIDAY 2.				SUNDAY 4.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	17 44 3.82	S. 26 57 29.2	12.33	0	19 28 29.95	S. 23 37 16.5	70
1	17 46 17.93	26 56 15.2	13.67	1	19 30 35.56	23 30 16.1	71
2	17 48 31.94	26 54 53.2	14.97	2	19 32 40.94	23 23 9.4	72
3	17 50 45.86	26 53 23.4	16.30	3	19 34 46.08	23 15 56.5	73
4	17 52 59.68	26 51 45.6	17.58	4	19 36 50.98	23 8 37.5	74
5	17 55 13.39	26 50 0.1	18.90	5	19 38 55.64	23 1 12.3	75
6	17 57 27.00	26 48 6.7	20.20	6	19 41 0.07	22 53 41.1	76
7	17 59 40.49	26 46 5.5	21.50	7	19 43 4.25	22 46 3.9	77
8	18 1 53.86	26 43 56.5	22.80	8	19 45 8.19	22 38 20.6	78
9	18 4 7.11	26 41 39.7	24.08	9	19 47 11.89	22 30 31.5	79
10	18 6 20.24	26 39 15.2	25.37	10	19 49 15.35	22 22 36.5	80
11	18 8 33.23	26 36 43.0	26.65	11	19 51 18.57	22 14 35.6	81
12	18 10 46.09	26 34 3.1	27.93	12	19 53 21.54	22 6 29.0	82
13	18 12 58.81	26 31 15.5	29.20	13	19 55 24.27	21 58 16.7	83
14	18 15 11.38	26 28 20.3	30.47	14	19 57 26.76	21 49 58.7	84
15	18 17 23.81	26 25 17.5	31.73	15	19 59 29.01	21 41 35.0	85
16	18 19 36.09	26 22 7.1	32.98	16	20 1 31.02	21 33 5.8	86
17	18 21 48.21	26 18 49.2	34.25	17	20 3 32.78	21 24 31.0	87
18	18 24 0.18	26 15 23.7	35.50	18	20 5 34.30	21 15 50.8	88
19	18 26 11.98	26 11 50.7	36.73	19	20 7 35.58	21 7 5	89
20	18 28 23.62	26 8 10.3	37.98	20	20 9 36.62	20 51	90
21	18 30 35.09	26 4 22.4	39.20	21	20 11 37.42	20	91
22	18 32 46.38	26 0 27.2	40.45	22	20 13 37.98	20	92
23	18 34 57.50	25 56 24.5	41.65	23	20 15 38.30	20	93
24	18 37 8.44	S. 25 52 14.6		24	20 17 38.38	S. 20	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
MONDAY 5.				WEDNESDAY 7.			
0	h m s	S. ° ' "	"	0	h m s	S. ° ' "	"
0	20 17 38.38	20 21 56.8	92.88	0	21 49 32.41	11 34 23.5	124.57
1	20 19 38.22	20 12 39.5	93.73	1	21 51 23.02	11 21 56.1	125.05
2	20 21 37.82	20 3 17.1	94.57	2	21 53 13.51	11 9 25.8	125.50
3	20 23 37.19	19 53 49.7	95.42	3	21 55 3.87	10 56 52.8	125.97
4	20 25 36.33	19 44 17.2	96.23	4	21 56 54.11	10 44 17.0	126.42
5	20 27 35.22	19 34 39.8	97.03	5	21 58 44.24	10 31 38.5	126.85
6	20 29 33.89	19 24 57.6	97.87	6	22 0 34.26	10 18 57.4	127.28
7	20 31 32.32	19 15 10.4	98.65	7	22 2 24.16	10 6 13.7	127.72
8	20 33 30.53	19 5 18.5	99.43	8	22 4 13.97	9 53 27.4	128.13
9	20 35 28.50	18 55 21.9	100.23	9	22 6 3.67	9 40 38.6	128.55
10	20 37 26.25	18 45 20.5	101.00	10	22 7 53.27	9 27 47.3	128.95
11	20 39 23.77	18 35 14.5	101.77	11	22 9 42.78	9 14 53.6	129.35
12	20 41 21.07	18 25 3.9	102.52	12	22 11 32.21	9 1 57.5	129.73
13	20 43 18.15	18 14 48.8	103.28	13	22 13 21.55	8 48 59.1	130.12
14	20 45 15.01	18 4 29.1	104.00	14	22 15 10.80	8 35 58.4	130.48
15	20 47 11.64	17 54 5.1	104.75	15	22 16 59.98	8 22 55.5	130.87
16	20 49 8.06	17 43 36.6	105.48	16	22 18 49.08	8 9 50.3	131.22
17	20 51 4.27	17 33 3.7	106.18	17	22 20 38.11	7 56 43.0	131.58
18	20 53 0.26	17 22 26.6	106.90	18	22 22 27.08	7 43 33.5	131.93
19	20 54 56.03	17 11 45.2	107.60	19	22 24 15.98	7 30 21.9	132.27
20	20 56 51.60	17 0 59.6	108.30	20	22 26 4.82	7 17 8.3	132.60
21	20 58 46.96	16 50 9.8	108.98	21	22 27 53.60	7 3 52.7	132.93
22	21 0 42.12	16 39 15.9	109.67	22	22 29 42.34	6 50 35.1	133.27
23	21 2 37.07	16 28 17.9	110.33	23	22 31 31.03	6 37 15.5	133.57
TUESDAY 6.				THURSDAY 8.			
0	21 4 31.81	16 17 15.9	111.00	0	22 33 19.68	6 23 54.1	133.88
1	21 6 26.36	16 6 9.9	111.65	1	22 35 8.28	6 10 30.8	134.18
2	21 8 20.71	15 55 0.0	112.30	2	22 36 56.85	5 57 5.7	134.48
3	21 10 14.87	15 43 46.2	112.93	3	22 38 45.38	5 43 38.8	134.77
4	21 12 8.83	15 32 28.6	113.57	4	22 40 33.89	5 30 10.2	135.05
5	21 14 2.61	15 21 7.2	114.18	5	22 42 22.38	5 16 39.9	135.33
6	21 15 56.21	15 9 42.1	114.80	6	22 44 10.84	5 3 7.9	135.58
7	21 17 49.61	14 58 13.3	115.42	7	22 45 59.29	4 49 34.4	135.83
8	21 19 42.84	14 46 40.8	116.02	8	22 47 47.74	4 35 59.4	136.10
9	21 21 35.89	14 35 4.7	116.60	9	22 49 36.17	4 22 22.8	136.33
10	21 23 28.77	14 23 25.1	117.18	10	22 51 24.60	4 8 44.8	136.58
11	21 25 21.48	14 11 42.0	117.77	11	22 53 13.04	3 55 5.3	136.80
12	21 27 14.01	13 59 55.4	118.33	12	22 55 1.47	3 41 24.5	137.02
13	21 29 6.39	13 48 5.4	118.88	13	22 56 49.92	3 27 42.4	137.23
14	21 30 58.60	13 36 12.1	119.45	14	22 58 38.39	3 13 59.0	137.45
15	21 32 50.65	13 24 15.4	119.98	15	23 0 26.87	3 0 14.3	137.65
16	21 34 42.55	13 12 15.5	120.53	16	23 2 15.38	2 46 28.4	137.83
17	21 36 34.29	13 0 12.3	121.05	17	23 4 3.92	2 32 41.4	138.02
18	21 38 25.88	12 48 6.0	121.58	18	23 5 52.49	2 18 53.3	138.22
		12 35 56.5	122.10	19	23 7 41.10	2 5 4.0	138.37
		23 43.9	122.60	20	23 9 29.75	1 51 13.8	138.53
		28.3	123.12	21	23 11 18.44	1 37 22.6	138.70
		0.6	123.60	22	23 13 7.19	1 23 30.4	138.85
			124.08	23	23 14 55.99	1 9 37.3	139.00
				24	23 16 44.84	S. 0 55 43.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 9.				SUNDAY 11.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	23 16 44.84	S. 0 55 43.3	139.13	0	0 46 33.74	N. 10 12 54.6	136.0
1	23 18 33.76	0 41 48.5	139.27	1	0 48 31.45	10 26 31.0	135.7
2	23 20 22.76	0 27 52.9	139.38	2	0 50 29.46	10 40 5.6	135.4
3	23 22 11.82	S. 0 13 56.6	139.48	3	0 52 27.79	10 53 38.4	135.1
4	23 24 0.96	N. 0 0 0.3	139.62	4	0 54 26.43	11 7 9.3	134.8
5	23 25 50.19	0 13 58.0	139.70	5	0 56 25.39	11 20 38.3	134.4
6	23 27 39.50	0 27 56.2	139.78	6	0 58 24.69	11 34 5.2	134.1
7	23 29 28.91	0 41 54.9	139.88	7	1 0 24.32	11 47 30.0	133.7
8	23 31 18.41	0 55 54.2	139.95	8	1 2 24.28	12 0 52.6	133.4
9	23 33 8.01	1 9 53.9	140.03	9	1 4 24.59	12 14 13.0	133.0
10	23 34 57.72	1 23 54.1	140.08	10	1 6 25.24	12 27 31.1	132.6
11	23 36 47.54	1 37 54.6	140.13	11	1 8 26.25	12 40 46.8	132.2
12	23 38 37.47	1 51 55.4	140.18	12	1 10 27.62	12 54 0.0	131.7
13	23 40 27.53	2 5 56.5	140.22	13	1 12 29.35	13 7 10.7	131.3
14	23 42 17.71	2 19 57.8	140.25	14	1 14 31.44	13 20 18.7	130.9
15	23 44 8.02	2 33 59.3	140.27	15	1 16 33.91	13 33 24.1	130.5
16	23 45 58.47	2 48 0.9	140.28	16	1 18 36.76	13 46 26.7	129.9
17	23 47 49.06	3 2 2.6	140.28	17	1 20 39.99	13 59 26.5	129.5
18	23 49 39.79	3 16 4.3	140.28	18	1 22 43.61	14 12 23.4	128.9
19	23 51 30.67	3 30 6.0	140.27	19	1 24 47.62	14 25 17.2	128.5
20	23 53 21.71	3 44 7.6	140.27	20	1 26 52.03	14 38 8.0	127.9
21	23 55 12.90	3 58 9.2	140.22	21	1 28 56.83	14 50 55.6	127.5
22	23 57 4.26	4 12 10.5	140.20	22	1 31 2.05	15 3 40.0	126.9
23	23 58 55.79	N. 4 26 11.7	140.15	23	1 33 7.67	N. 15 16 21.0	126.5
SATURDAY 10.				MONDAY 12.			
0	0 0 47.49	N. 4 40 12.6	140.10	0	1 35 13.71	N. 15 28 58.7	125.9
1	0 2 39.37	4 54 13.2	140.03	1	1 37 20.17	15 41 32.9	125.5
2	0 4 31.43	5 8 13.4	139.97	2	1 39 27.06	15 54 3.5	124.9
3	0 6 23.69	5 22 13.2	139.90	3	1 41 34.38	16 6 30.4	123.9
4	0 8 16.13	5 36 12.6	139.80	4	1 43 42.13	16 18 53.6	123.5
5	0 10 8.78	5 50 11.4	139.70	5	1 45 50.32	16 31 12.9	122.9
6	0 12 1.63	6 4 9.6	139.60	6	1 47 58.95	16 43 28.3	121.9
7	0 13 54.69	6 18 7.2	139.48	7	1 50 8.03	16 55 39.7	121.5
8	0 15 47.97	6 32 4.1	139.37	8	1 52 17.55	17 7 47.0	120.9
9	0 17 41.47	6 46 0.3	139.23	9	1 54 27.54	17 19 50.0	119.9
10	0 19 35.19	6 59 55.7	139.08	10	1 56 37.98	17 31 48.8	119.5
11	0 21 29.14	7 13 50.2	138.93	11	1 58 48.88	17 43 43.2	118.9
12	0 23 23.32	7 27 43.8	138.77	12	2 1 0.25	17 55 33.1	117.9
13	0 25 17.75	7 41 36.4	138.60	13	2 3 12.09	18 7 18.4	116.9
14	0 27 12.41	7 55 28.0	138.42	14	2 5 24.40	18 18 59.1	115.9
15	0 29 7.33	8 9 18.5	138.23	15	2 7 37.20	18 30 34.9	115.5
16	0 31 2.51	8 23 7.9	138.03	16	2 9 50.47	18 42 5.9	114.9
17	0 32 57.95	8 36 56.1	137.82	17	2 12 4.22	18 53 32.0	113.9
18	0 34 53.65	8 50 43.0	137.60	18	2 14 18.47	19 4 52.9	112.9
19	0 36 49.62	9 4 28.6	137.37	19	2 16 33.20	19	
20	0 38 45.87	9 18 12.8	137.13	20	2 18 48.43		
21	0 40 42.40	9 31 55.6	136.87	21	2 21 4.16		
22	0 42 39.22	9 45 36.8	136.62	22	2 23 20.38		
23	0 44 36.33	9 59 16.5	136.35	23	2 25 37.10		
24	0 46 33.74	N. 10 12 54.6		24	2 27 54.34	N.	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 13.				THURSDAY 15.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	2 27 54.34	N.20 11 6.6	107.12	0	4 27 39.85	N.26 22 35.2	39.23
1	2 30 12.08	20 21 49.3	106.13	1	4 30 21.00	26 26 30.6	37.40
2	2 32 30.33	20 32 26.1	105.12	2	4 33 2.52	26 30 15.0	35.53
3	2 34 49.09	20 42 56.8	104.12	3	4 35 44.40	26 33 48.2	33.68
4	2 37 8.36	20 53 21.5	103.08	4	4 38 26.64	26 37 10.3	31.78
5	2 39 28.15	21 3 40.0	102.02	5	4 41 9.22	26 40 21.0	29.88
6	2 41 48.45	21 13 52.1	100.95	6	4 43 52.14	26 43 20.3	27.98
7	2 44 9.28	21 23 57.8	99.87	7	4 46 35.39	26 46 8.2	26.05
8	2 46 30.62	21 33 57.0	98.75	8	4 49 18.95	26 48 44.5	24.12
9	2 48 52.48	21 43 49.5	97.62	9	4 52 2.82	26 51 9.2	22.18
10	2 51 14.86	21 53 35.2	96.48	10	4 54 46.99	26 53 22.3	20.22
11	2 53 37.77	22 3 14.1	95.32	11	4 57 31.44	26 55 23.6	18.25
12	2 56 1.19	22 12 46.0	94.13	12	5 0 16.16	26 57 13.1	16.27
13	2 58 25.14	22 22 10.8	92.98	13	5 3 1.16	26 58 50.7	14.28
14	3 0 49.62	22 31 28.4	91.70	14	5 5 46.41	27 0 16.4	12.28
15	3 3 14.62	22 40 38.6	90.47	15	5 8 31.89	27 1 30.1	10.27
16	3 5 40.14	22 49 41.4	89.22	16	5 11 17.61	27 2 31.7	8.25
17	3 8 6.18	22 58 36.7	87.92	17	5 14 3.55	27 3 21.2	6.23
18	3 10 32.75	23 7 24.2	86.63	18	5 16 49.69	27 3 58.6	4.20
19	3 12 59.84	23 16 4.0	85.33	19	5 19 36.03	27 4 23.8	2.17
20	3 15 27.45	23 24 36.0	83.98	20	5 22 22.55	27 4 36.8	0.12
21	3 17 55.57	23 32 59.9	82.63	21	5 25 9.23	27 4 37.5	1.92
22	3 20 24.21	23 41 15.7	81.27	22	5 27 56.08	27 4 26.0	3.98
23	3 22 53.37	N.23 49 23.3	79.87	23	5 30 43.07	N.27 4 2.1	6.05
WEDNESDAY 14.				FRIDAY 16.			
0	3 25 23.04	N.23 57 22.5	78.47	0	5 33 30.19	N.27 3 25.8	8.12
1	3 27 53.22	24 5 13.3	77.03	1	5 36 17.43	27 2 37.1	10.17
2	3 30 23.92	24 12 55.5	75.60	2	5 39 4.78	27 1 36.1	12.27
3	3 32 55.11	24 20 29.1	74.12	3	5 41 52.22	27 0 22.5	14.32
4	3 35 26.81	24 27 53.8	72.65	4	5 44 39.74	26 58 56.6	16.42
5	3 37 59.02	24 35 9.7	71.13	5	5 47 27.33	26 57 18.1	18.48
6	3 40 31.72	24 42 16.5	69.62	6	5 50 14.98	26 55 27.2	20.57
7	3 43 4.91	24 49 14.2	68.08	7	5 53 2.67	26 53 23.8	22.65
8	3 45 38.59	24 56 2.7	66.52	8	5 55 50.39	26 51 7.9	24.72
9	3 48 12.76	25 2 41.8	64.95	9	5 58 38.14	26 48 39.6	26.82
10	3 50 47.41	25 9 11.5	63.35	10	6 1 25.88	26 45 58.7	28.88
11	3 53 22.53	25 15 31.6	61.73	11	6 4 13.62	26 43 5.4	30.97
12	3 55 58.12	25 21 42.0	60.12	12	6 7 1.35	26 39 59.6	33.05
13	3 58 34.19	25 27 42.7	58.47	13	6 9 49.04	26 36 41.3	35.12
14	4 1 10.71	25 33 33.5	56.78	14	6 12 36.69	26 33 10.6	37.20
15	4 3 47.69	25 39 14.2	55.12	15	6 15 24.27	26 29 27.4	39.25
16	4 6 25.12	25 44 44.9	53.42	16	6 18 11.79	26 25 31.9	41.32
17	4 9 2.99	25 50 5.4	51.70	17	6 20 59.22	26 21 24.0	43.37
		25 55 15.6	49.97	18	6 23 46.56	26 17 3.8	45.42
		26 0 15.4	48.23	19	6 26 33.79	26 12 31.3	47.47
		5 4.8	46.45	20	6 29 20.90	26 7 46.5	49.50
		43.5	44.67	21	6 32 7.89	26 2 49.5	51.52
		5	42.88	22	6 34 54.72	25 57 40.4	53.55
		2	41.07	23	6 37 41.41	25 52 19.1	55.57
				24	6 40 27.92	N.25 46 45.7	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff.
SATURDAY 17.				MONDAY 19.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	6 40 27.92	N. 25 46 45.7	57.57	0	8 47 35.56	N. 17 51 34.3	13
1	6 43 14.25	25 41 0.3	59.55	1	8 50 4.62	17 38 5.5	13
2	6 46 0.40	25 35 3.0	61.55	2	8 52 33.24	17 24 30.1	13
3	6 48 46.34	25 28 53.7	63.52	3	8 55 1.42	17 10 48.2	13
4	6 51 32.08	25 22 32.6	65.47	4	8 57 29.15	16 57 0.0	13
5	6 54 17.59	25 15 59.8	67.42	5	8 59 56.45	16 43 5.6	14
6	6 57 2.88	25 9 15.3	69.37	6	9 2 23.32	16 29 5.1	14
7	6 59 47.93	25 2 19.1	71.28	7	9 4 49.74	16 14 58.7	14
8	7 2 32.72	24 55 11.4	73.20	8	9 7 15.74	16 0 46.5	14
9	7 5 17.25	24 47 52.2	75.08	9	9 9 41.30	15 46 28.6	14
10	7 8 1.51	24 40 21.7	76.98	10	9 12 6.43	15 32 5.3	14
11	7 10 45.49	24 32 39.8	78.85	11	9 14 31.13	15 17 36.5	14
12	7 13 29.19	24 24 46.7	80.70	12	9 16 55.40	15 3 2.5	14
13	7 16 12.59	24 16 42.5	82.55	13	9 19 19.25	14 48 23.4	14
14	7 18 55.68	24 8 27.2	84.37	14	9 21 42.68	14 33 39.3	14
15	7 21 38.47	24 0 1.0	86.17	15	9 24 5.69	14 18 50.4	14
16	7 24 20.93	23 51 24.0	87.97	16	9 26 28.29	14 3 56.8	14
17	7 27 3.05	23 42 36.2	89.73	17	9 28 50.47	13 48 58.7	15
18	7 29 44.85	23 33 37.8	91.48	18	9 31 12.24	13 33 56.1	15
19	7 32 26.30	23 24 28.9	93.23	19	9 33 33.60	13 18 49.2	15
20	7 35 7.39	23 15 9.5	94.95	20	9 35 54.56	13 3 38.1	15
21	7 37 48.13	23 5 39.8	96.65	21	9 38 15.11	12 48 23.1	15
22	7 40 28.51	22 55 59.9	98.35	22	9 40 35.27	12 33 4.1	15
23	7 43 8.51	N. 22 46 9.8	100.00	23	9 42 55.03	N. 12 17 41.3	15
SUNDAY 18.				TUESDAY 20.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	7 45 48.14	N. 22 36 9.8	101.65	0	9 45 14.41	N. 12 2 14.9	15
1	7 48 27.38	22 25 59.9	103.27	1	9 47 33.39	11 46 45.0	15
2	7 51 6.23	22 15 40.3	104.88	2	9 49 51.99	11 31 11.8	15
3	7 53 44.70	22 5 11.0	106.47	3	9 52 10.21	11 15 35.2	15
4	7 56 22.76	21 54 32.2	108.03	4	9 54 28.06	10 59 55.6	15
5	7 59 0.42	21 43 44.0	109.57	5	9 56 45.53	10 44 12.9	15
6	8 1 37.68	21 32 46.6	111.10	6	9 59 2.64	10 28 27.4	15
7	8 4 14.53	21 21 40.0	112.60	7	10 1 19.38	10 12 39.1	15
8	8 6 50.96	21 10 24.4	114.10	8	10 3 35.77	9 56 48.1	15
9	8 9 26.98	20 58 59.8	115.53	9	10 5 51.80	9 40 54.6	15
10	8 12 2.57	20 47 26.6	117.00	10	10 8 7.49	9 24 58.8	15
11	8 14 37.75	20 35 44.6	118.40	11	10 10 22.82	9 9 0.6	16
12	8 17 12.50	20 23 54.2	119.80	12	10 12 37.82	8 53 0.3	16
13	8 19 46.82	20 11 55.4	121.17	13	10 14 52.49	8 36 57.9	16
14	8 22 20.71	19 59 48.4	122.53	14	10 17 6.82	8 20 53.6	16
15	8 24 54.16	19 47 33.2	123.87		10 19 20.83	8 4 47.5	16
16	8 27 27.18	19 35 10.1	125.19		10 21 34.52	7 48 39.7	16
17	8 29 59.77	19 22 39.2	126		10 23 47.90	7 32 30.3	16
18	8 32 31.92	19 10 0.5	127		10 26 0.06	7 16 19.5	16
19	8 35 3.62	18 57 14.3	128			7 3	16
20	8 37 34.89	18 44 20.6	130				
21	8 40 5.72	18 31 19.7	131				
22	8 42 36.11	18 18 11.5	132				
23	8 45 6.06	18 4 56.4	133				
24	8 47 35.56	N. 17 51 34.3					

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 21.				FRIDAY 23.		
^s 13° 04'	^o N. 5 38 50° 0'	["] 162° 98	0	^h 12 20 24° 68'	^o S. 7 7 39° 9'	150° 83
24° 05'	5 22 32° 1'	163° 08	1	12 22 28° 44'	7 22 44° 9'	150° 27
34° 80'	5 6 13° 6'	163° 17	2	12 24 32° 16'	7 37 46° 5'	149° 70
45° 27'	4 49 54° 6'	163° 23	3	12 26 35° 86'	7 52 44° 7'	149° 12
55° 48'	4 33 35° 2'	163° 27	4	12 28 39° 54'	8 7 39° 4'	148° 52
5° 44'	4 17 15° 6'	163° 32	5	12 30 43° 19'	8 22 30° 5'	147° 90
15° 15'	4 0 55° 7'	163° 32	6	12 32 46° 84'	8 37 17° 9'	147° 30
24° 61'	3 44 35° 8'	163° 30	7	12 34 50° 47'	8 52 1° 7'	146° 67
33° 82'	3 28 16° 0'	163° 30	8	12 36 54° 10'	9 6 41° 7'	146° 03
42° 81'	3 11 56° 2'	163° 25	9	12 38 57° 72'	9 21 17° 9'	145° 38
51° 56'	2 55 36° 7'	163° 22	10	12 41 1° 35'	9 35 50° 2'	144° 72
0° 09'	2 39 17° 4'	163° 13	11	12 43 4° 98'	9 50 18° 5'	144° 07
8° 40'	2 22 58° 6'	163° 05	12	12 45 8° 62'	10 4 42° 9'	143° 38
16° 50'	2 6 40° 3'	162° 97	13	12 47 12° 28'	10 19 3° 2'	142° 70
24° 38'	1 50 22° 5'	162° 83	14	12 49 15° 95'	10 33 19° 4'	142° 02
32° 07'	1 34 5° 5'	162° 72	15	12 51 19° 65'	10 47 31° 5'	141° 30
39° 55'	1 17 49° 2'	162° 57	16	12 53 23° 37'	11 1 39° 3'	140° 58
46° 84'	1 1 33° 8'	162° 40	17	12 55 27° 13'	11 15 42° 8'	139° 87
53° 95'	0 45 19° 4'	162° 25	18	12 57 30° 91'	11 29 42° 0'	139° 13
0° 87'	0 29 5° 9'	162° 03	19	12 59 34° 74'	11 43 36° 8'	138° 38
7° 61'	N. 0 12 53° 7'	161° 85	20	13 1 38° 60'	11 57 27° 1'	137° 63
14° 17'	S. 0 3 17° 4'	161° 62	21	13 3 42° 51'	12 11 12° 9'	136° 88
20° 58'	0 19 27° 1'	161° 38	22	13 5 46° 47'	12 24 54° 2'	136° 12
26° 81'	S. 0 35 35° 4'	161° 15	23	13 7 50° 47'	S. 12 38 30° 9'	135° 33
THURSDAY 22.				SATURDAY 24.		
32° 90'	S. 0 51 42° 3'	160° 88	0	13 9 54° 53'	S. 12 52 2° 9'	134° 55
38° 83'	1 7 47° 6'	160° 60	1	13 11 58° 65'	13 5 30° 2'	133° 75
44° 61'	1 23 51° 2'	160° 33	2	13 14 2° 83'	13 18 52° 7'	132° 95
50° 26'	1 39 53° 2'	160° 02	3	13 16 7° 08'	13 32 10° 4'	132° 13
55° 76'	1 55 53° 3'	159° 70	4	13 18 11° 39'	13 45 23° 2'	131° 32
1° 13'	2 11 51° 5'	159° 38	5	13 20 15° 78'	13 58 31° 1'	130° 48
6° 38'	2 27 47° 8'	159° 03	6	13 22 20° 24'	14 11 34° 0'	129° 65
11° 50'	2 43 42° 0'	158° 68	7	13 24 24° 78'	14 24 31° 9'	128° 80
16° 51'	2 59 34° 1'	158° 33	8	13 26 29° 40'	14 37 24° 7'	127° 93
21° 40'	3 15 24° 1'	157° 93	9	13 28 34° 10'	14 50 12° 3'	127° 08
26° 19'	3 31 11° 7'	157° 55	10	13 30 38° 88'	15 2 54° 8'	126° 22
30° 87'	3 46 57° 0'	157° 15	11	13 32 43° 76'	15 15 32° 1'	125° 33
35° 46'	4 2 39° 9'	156° 73	12	13 34 48° 73'	15 28 4° 1'	124° 45
39° 95'	4 18 20° 3'	156° 30	13	13 36 53° 79'	15 40 30° 8'	123° 55
44° 36'	4 33 58° 1'	155° 87	14	13 38 58° 96'	15 52 52° 1'	122° 65
48° 69'	4 49 33° 3'	155° 42	15	13 41 4° 22'	16 5 8° 0'	121° 78
52° 93'	5 5 5° 8'	154° 95	16	13 43 9° 58'	16 17 18° 4'	120° 82
57° 11'	5 20 35° 5'	154° 48	17	13 45 15° 04'	16 29 23° 3'	119° 88
1° 21'	5 36 2° 4'	153° 98	18	13 47 20° 62'	16 41 22° 6'	118° 97
5° 26'	5 51 26° 3'	153° 50	19	13 49 26° 30'	16 53 16° 4'	118° 02
9° 24'	6 6 47° 3'	152° 98	20	13 51 32° 09'	17 5 4° 5'	117° 05
13° 17'	6 22 5° 2'	152° 47	21	13 53 37° 99'	17 16 46° 8'	116° 12
17° 05'	6 37 20° 0'	151° 93	22	13 55 44° 01'	17 28 23° 5'	115° 13
	6 52 31° 6'	151° 38	23	13 57 50° 15'	17 39 54° 3'	114° 17
	7 7 39° 9'		24	13 59 56° 39'	S. 17 51 19° 3'	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.
<i>SUNDAY 25.</i>				<i>TUESDAY 27.</i>		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	13 59 56.39	S. 17 51 19.3	113.18	0	15 43 33.34	S. 24 51 37.8
1	14 2 2.76	18 2 38.4	112.20	1	15 45 46.05	24 57 28.9
2	14 4 9.26	18 13 51.6	111.20	2	15 47 58.86	25 3 12.4
3	14 6 15.87	18 24 58.8	110.20	3	15 50 11.78	25 8 48.3
4	14 8 22.62	18 36 0.0	109.20	4	15 52 24.80	25 14 16.5
5	14 10 29.49	18 46 55.2	108.17	5	15 54 37.93	25 19 37.0
6	14 12 36.49	18 57 44.2	107.15	6	15 56 51.15	25 24 49.8
7	14 14 43.62	19 8 27.1	106.12	7	15 59 4.47	25 29 54.9
8	14 16 50.88	19 19 3.8	105.08	8	16 1 17.88	25 34 52.2
9	14 18 58.27	19 29 34.3	104.03	9	16 3 31.38	25 39 41.8
10	14 21 5.79	19 39 58.5	102.98	10	16 5 44.97	25 44 23.6
11	14 23 13.45	19 50 16.4	101.93	11	16 7 58.64	25 48 57.3
12	14 25 21.25	20 0 28.0	100.87	12	16 10 12.39	25 53 23.7
13	14 27 29.19	20 10 33.2	99.78	13	16 12 26.22	25 57 42.0
14	14 29 37.26	20 20 31.9	98.72	14	16 14 40.12	26 1 52.4
15	14 31 45.47	20 30 24.2	97.62	15	16 16 54.10	26 5 55.0
16	14 33 53.82	20 40 9.9	96.53	16	16 19 8.14	26 9 49.7
17	14 36 2.30	20 49 49.1	95.45	17	16 21 22.25	26 13 36.4
18	14 38 10.93	20 59 21.8	94.33	18	16 23 36.42	26 17 15.3
19	14 40 19.70	21 8 47.8	93.22	19	16 25 50.64	26 20 46.2
20	14 42 28.61	21 18 7.1	92.10	20	16 28 4.92	26 24 9.2
21	14 44 37.66	21 27 19.7	90.98	21	16 30 19.25	26 27 24.2
22	14 46 46.85	21 36 25.6	89.85	22	16 32 33.63	26 30 31.3
23	14 48 56.17	S. 21 45 24.7	88.72	23	16 34 48.05	S. 26 33 30.4
<i>MONDAY 26.</i>				<i>WEDNESDAY 28.</i>		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	14 51 5.64	S. 21 54 17.0	87.58	0	16 37 2.51	S. 26 36 21.5
1	14 53 15.25	22 3 2.5	86.42	1	16 39 17.01	26 39 4.6
2	14 55 25.00	22 11 41.0	85.28	2	16 41 31.53	26 41 39.8
3	14 57 34.89	22 20 12.7	84.10	3	16 43 46.09	26 44 6.9
4	14 59 44.92	22 28 37.3	82.95	4	16 46 0.67	26 46 26.0
5	15 1 55.09	22 36 55.0	81.78	5	16 48 15.27	26 48 37.1
6	15 4 5.39	22 45 5.7	80.60	6	16 50 29.88	26 50 40.2
7	15 6 15.84	22 53 9.3	79.40	7	16 52 44.51	26 52 35.3
8	15 8 26.42	23 1 5.1	78.23	8	16 54 59.15	26 54 22.3
9	15 10 37.13	23 8 55.7	77.03	9	16 57 13.79	26 56 1.3
10	15 12 47.99	23 16 37.3	75.82	10	16 59 28.42	26 57 32.2
11	15 14 58.97	23 24 12.2	74.63	11	17 1 43.06	26 58 55.2
12	15 17 10.09	23 31 40.0	73.42	12	17 3 57.68	27 0 10.1
13	15 19 21.34	23 39 0.5	72.18	13	17 6 12.29	27 1 17.0
14	15 21 32.72	23 46 13.6	70.98	14	17 8 26.89	27 2 46.18
15	15 23 44.23	23 53 19.5	69.73	15	17 10 41.47	27 3 58.5
16	15 25 55.86	24 0 17.9	68.53	16	17 12 56.01	27 5 49.4
17	15 28 7.63	24 7 9.1	67.27	17	17 15 10.53	27 4 24.2
18	15 30 19.51	24 13 52.7	66.05	18	17 17 25.02	27 4 50.9
19	15 32 31.52	24 20 29.0	64.80	19	17 19 39.47	27 5 9.7
20	15 34 43.65	24 26 57.8	63.55	20	17 21 53.87	27 5 20.5
21	15 36 55.90	24 33 19.1	62.30	21	17 24 8.23	27 5 23.2
22	15 39 8.27	24 39 32.9	61.03	22	17 26 22.54	27 5 18.0
23	15 41 20.75	24 45 39.1	59.78	23	17 28 36.79	27 5 4.8
24	15 43 33.34	S. 24 51 37.8		24	17 30 50.98	S. 27 4 43.7

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 29.				SATURDAY 31.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	17 30 50.98	S. 27 4 43.7	4.85	0	19 15 46.73	S. 24 18 22.0	63.33
1	17 33 5.11	27 4 14.6	6.17	1	19 17 53.54	24 11 59.0	64.92
2	17 35 19.17	27 3 37.6	7.50	2	19 20 0.14	24 5 29.5	66.00
3	17 37 33.16	27 2 52.6	8.80	3	19 22 6.52	23 58 53.5	67.07
4	17 39 47.07	27 1 59.8	10.13	4	19 24 12.68	23 52 11.1	68.15
5	17 42 0.90	27 0 59.0	11.43	5	19 26 18.61	23 45 22.2	69.20
6	17 44 14.65	26 59 50.4	12.75	6	19 28 24.33	23 38 27.0	70.27
7	17 46 28.31	26 58 33.9	14.07	7	19 30 29.82	23 31 25.4	71.30
8	17 48 41.87	26 57 9.5	15.37	8	19 32 35.08	23 24 17.6	72.33
9	17 50 55.34	26 55 37.3	16.65	9	19 34 40.12	23 17 3.6	73.38
10	17 53 8.71	26 53 57.4	17.97	10	19 36 44.94	23 9 43.3	74.38
11	17 55 21.97	26 52 9.6	19.27	11	19 38 49.52	23 2 17.0	75.42
12	17 57 35.13	26 50 14.0	20.55	12	19 40 53.88	22 54 44.5	76.42
13	17 59 48.17	26 48 10.7	21.83	13	19 42 58.01	22 47 6.0	77.42
14	18 2 1.10	26 45 59.7	23.13	14	19 45 1.90	22 39 21.5	78.42
15	18 4 13.90	26 43 40.9	24.40	15	19 47 5.57	22 31 31.0	79.38
16	18 6 26.58	26 41 14.5	25.68	16	19 49 9.00	22 23 24.7	80.37
17	18 8 39.13	26 38 40.4	26.95	17	19 51 12.20	22 15 32.5	81.35
18	18 10 51.55	26 35 58.7	28.23	18	19 53 15.18	22 7 24.4	82.30
19	18 13 3.84	26 33 9.3	29.48	19	19 55 17.92	21 59 10.6	83.25
20	18 15 15.99	26 30 12.4	30.75	20	19 57 20.43	21 50 51.1	84.22
21	18 17 27.99	26 27 7.9	32.00	21	19 59 22.70	21 42 25.8	85.13
22	18 19 39.84	26 23 55.9	33.27	22	20 1 24.75	21 33 55.0	86.07
23	18 21 51.55	S. 26 20 36.3	34.50	23	20 3 26.57	S. 21 25 18.6	87.00
FRIDAY 30.				SUNDAY, AUG. 1.			
0	18 24 3.10	S. 26 17 9.3	35.75	0	20 5 28.15	S. 21 16 36.6	
1	18 26 14.50	26 13 34.8	36.98				
2	18 28 25.74	26 9 52.9	38.22				
3	18 30 36.81	26 6 3.6	39.43				
4	18 32 47.72	26 2 7.0	40.67				
5	18 34 58.46	25 58 3.0	41.88				
6	18 37 9.02	25 53 51.7	43.08				
7	18 39 19.41	25 49 33.2	44.30				
8	18 41 29.63	25 45 7.4	45.48				
9	18 43 39.66	25 40 34.5	46.68				
10	18 45 49.51	25 35 54.4	47.88				
11	18 47 59.17	25 31 7.1	49.05				
12	18 50 8.64	25 26 12.8	50.23				
13	18 52 17.92	25 21 11.4	51.38				
14	18 54 27.01	25 16 3.1	52.57				
15	18 56 35.90	25 10 47.7	53.72				
16	18 58 44.59	25 5 25.4	54.87				
17	19 0 53.08	24 59 56.2	56.00				
18	19 3 1.37	24 54 20.2	57.15				
19	19 5 9.46	24 48 37.3	58.28				
20	19 7 17.33	24 42 47.6	59.40				
21	19 9 25.00	24 36 51.2	60.52				
22	19 11 32.46	24 30 48.1	61.62				
23	19 13 39.70	24 24 38.4	62.73				
24	19 15 46.73	S. 24 18 22.0					

PHASES OF THE MOON.

	d	h	m
○ Full Moon - - -	3	6	28.4
☾ Last Quarter - - -	11	8	30.4
● New Moon - - -	18	2	12.9
☾ First Quarter - - -	24	20	20.9

	d	h
☾ Apogee - - - - -	4	12
☾ Perigee - - - - -	18	3
☾ Apogee - - - - -	31	18

MEAN TIME.									
LUNAR DISTANCES.									
Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^b .	P. L. of diff.	VI ^b .	P. L. of diff.	IX ^b .	
1	Spica π g W.	52 44 39	2997	54 14 56	3001	55 45 7	3006	57 15 1	
	Mars W.	49 52 4	3136	51 19 30	3141	52 46 50	3146	54 14	
	Fomalhaut E.	76 32 45	3373	75 9 58	3384	73 47 23	3395	72 25	
	α Pegasi E.	97 52 44	3160	96 25 47	3164	94 58 55	3168	93 32	
2	Spica π g W.	64 44 15	3031	66 13 49	3035	67 43 18	3038	69 12 4	
	Mars W.	61 28 54	3171	62 55 38	3176	64 22 16	3179	65 48 5	
	Antares W.	18 51 50	3025	20 21 32	3028	21 51 10	3032	23 20 4	
	Fomalhaut E.	65 36 38	3472	64 15 43	3487	62 55 5	3504	61 34 4	
3	α Pegasi E.	86 19 29	3194	84 53 13	3199	83 27 3	3204	82 0 5	
	Mars W.	73 0 40	3199	74 26 51	3201	75 52 59	3204	77 19	
	Antares W.	30 47 31	3051	32 16 41	3052	33 45 49	3055	35 14 5	
	Jupiter W.	26 46 42	3092	28 15 1	3088	29 43 25	3084	31 11 5	
4	Fomalhaut E.	54 58 10	3623	53 40 0	3648	52 22 18	3675	51 5	
	α Pegasi E.	74 51 57	3233	73 26 27	3238	72 1 3	3243	70 35 4	
	Mars W.	84 28 48	3216	85 54 38	3217	87 20 27	3219	88 46 1	
	Antares W.	42 39 43	3065	44 8 35	3066	45 37 26	3068	47 6 1	
5	Jupiter W.	38 35 2	3072	40 3 46	3071	41 32 31	3069	43 1 1	
	Saturn W.	21 31 26	3131	22 58 58	3121	24 26 42	3114	25 54 3	
	Fomalhaut E.	44 47 22	3889	43 33 51	3935	42 21 7	3987	41 9 1	
	α Pegasi E.	63 31 1	3281	62 6 27	3288	60 42 1	3294	59 17 4	
6	Mars W.	95 54 54	3222	97 20 37	3222	98 46 20	3222	100 12	
	Antares W.	54 30 14	3069	55 59 2	3069	57 27 50	3068	58 56 3	
	Jupiter W.	50 25 33	3063	51 54 28	3061	53 23 25	3060	54 52 2	
	Saturn W.	33 15 39	3085	34 44 7	3081	36 12 40	3078	37 41 1	
7	α Pegasi E.	52 18 43	3350	50 55 29	3362	49 32 29	3374	48 9 4	
	α Arietis E.	93 30 50	3083	92 2 20	3083	90 33 50	3083	89 5 2	
	Antares W.	66 21 4	3060	67 50 3	3058	69 19 4	3055	70 48	
	Jupiter W.	62 17 52	3048	63 47 6	3045	65 16 23	3043	66 45 4	
8	Saturn W.	45 5 14	3060	46 34 13	3056	48 3 16	3053	49 32 2	
	α Pegasi E.	41 20 16	3479	39 59 28	3503	38 39 7	3531	37 19 1	
	α Arietis E.	81 42 27	3074	80 13 46	3073	78 45 3	3071	77 16 1	
	Venus E.	106 8 49	3412	104 46 46	3409	103 24 40	3407	102 2 3	
9	Jupiter W.	74 13 29	3020	75 43 17	3016	77 13 10	3010	78 43 1	
	Saturn W.	56 59 17	3027	58 28 56	3022	59 58 41	3017	61 28 3	
	α Arietis E.	69 51 33	3051	68 22 23	3048	66 53 9	3043	65 23 4	
	Venus E.	95 10 50	3386	93 48 17	3381	92 25 39	3377	91 2 5	
10	Sun E.	139 27 5	3402	138 4 51	3398	136 42 32	3392	135 20	
	Jupiter W.	86 14 48	2976	87 45 31	2970	89 16 22	2962	90 47 2	
	Saturn W.	68 59 39	2980	70 30 17	2974	72 1 3	2965	73 32	
	α Arietis E.	57 55 36	3011	56 25 37	3004	54 55 29	2998	53 25 1	
11	Venus E.	84 7 49	3343	82 44 27	3336	81 20 57	3329	79 57 1	
	Sun E.	128 26 9	3352	127 2 57	3344	125 39 36			
	Jupiter W.	98 24 54	2913	99 56 57	2902	101 29 1			
	Saturn W.	81 9 15	2913	82 41 17	2903	84 13 3			
12	α Arietis E.	45 51 44	2954	44 20 33	2946	42 49			
	Venus E.	72 56 58	3281	71 32 24	3272	70 7			

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
ca m ^g W.	58 45 11	3016	60 15 4	3019	61 44 53	3024	63 14 36	3027
rs W.	55 41 13	3155	57 8 16	3159	58 35 14	3164	60 2 6	3168
nalhaut E.	71 2 52	3419	69 40 57	3431	68 19 16	3444	66 57 49	3458
egasi E.	92 5 26	3177	90 38 49	3181	89 12 17	3186	87 45 51	3189
ca m ^g W.	70 42 5	3045	72 11 22	3048	73 40 35	3050	75 9 46	3053
rs W.	67 15 20	3186	68 41 46	3190	70 8 7	3193	71 34 25	3195
ares W.	24 50 13	3038	26 19 38	3042	27 48 59	3045	29 18 16	3047
nalhaut E.	60 14 44	3538	58 55 2	3558	57 35 42	3578	56 16 44	3600
egasi E.	80 34 58	3213	79 9 4	3218	77 43 16	3223	76 17 34	3227
rs W.	78 45 5	3208	80 11 5	3211	81 37 1	3212	83 2 56	3215
ares W.	36 43 57	3060	38 12 56	3061	39 41 54	3063	41 10 49	3064
iter W.	32 40 26	3073	34 9 2	3077	35 37 40	3075	37 6 20	3073
nalhaut E.	49 48 21	3734	48 32 10	3768	47 16 35	3805	46 1 38	3845
egasi E.	69 10 34	3255	67 45 30	3261	66 20 33	3267	64 55 43	3274
rs W.	90 11 59	3220	91 37 44	3221	93 3 28	3221	94 29 12	3222
ares W.	48 35 4	3069	50 3 52	3069	51 32 40	3069	53 1 27	3069
iter W.	44 30 6	3067	45 58 56	3067	47 27 46	3065	48 56 39	3064
urn W.	27 22 35	3101	28 50 43	3096	30 18 57	3092	31 47 16	3089
nalhaut E.	39 58 20	4108	38 48 26	4178	37 39 39	4257	36 32 6	4344
egasi E.	57 53 35	3311	56 29 36	3319	55 5 47	3330	53 42 10	3339
rs W.	101 37 46	3221	103 3 30	3220	104 29 16	3220	105 55 2	3218
ares W.	60 25 29	3066	61 54 20	3065	63 23 12	3063	64 52 7	3061
iter W.	56 21 25	3056	57 50 28	3054	59 19 34	3052	60 48 42	3051
urn W.	39 9 56	3073	40 38 39	3069	42 7 27	3065	43 36 19	3063
egasi E.	46 47 12	3402	45 24 58	3419	44 3 3	3437	42 41 28	3457
rietis E.	87 36 48	3081	86 8 15	3080	84 39 41	3078	83 11 5	3077
ares W.	72 17 17	3048	73 46 30	3046	75 15 46	3042	76 45 7	3038
iter W.	68 15 7	3035	69 44 36	3032	71 14 9	3028	72 43 47	3025
urn W.	51 1 36	3045	52 30 53	3040	54 0 16	3036	55 29 44	3032
egasi E.	36 0 0	3596	34 41 21	3636	33 23 25	3680	32 6 17	3731
rietis E.	75 47 29	3065	74 18 36	3061	72 49 39	3058	71 20 38	3055
us E.	100 40 19	3400	99 18 2	3397	97 55 42	3394	96 33 18	3390
iter W.	80 13 15	3001	81 43 27	2994	83 13 47	2989	84 44 14	2983
urn W.	62 58 31	3006	64 28 37	3001	65 58 49	2994	67 29 10	2987
rietis E.	63 54 23	3033	62 24 51	3028	60 55 13	3022	59 25 28	3017
us E.	89 40 7	3366	88 17 12	3361	86 54 11	3355	85 31 3	3350
E.	133 57 33	3380	132 34 54	3373	131 12 7	3366	129 49 12	3359
iter W.	92 18 33	2946	93 49 53	2939	95 21 22	2930	96 53 3	2922
urn W.	75 3 5	2949	76 34 22	2942	78 5 48	2932	79 37 26	2924
rietis E.	51 54 50	2985	50 24 18	2977	48 53 36	2970	47 22 45	2962
	78 33 33	3314	77 9 38	3307	75 45 34	3299	74 21 21	3290
	52 26	3319	121 28 36	3309	120 4 35	3300	118 40 23	3290
	21	2873	106 7 15	2863	107 40 22	2851	109 13 44	2840
		2873	88 51 31	2862	90 24 39	2850	91 58 2	2839
	30		38 14 6	2912	36 42 2	2904	35 9 48	2895
			65 52 20	3233	64 26 50	3222	63 1 7	3212

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
9	Aldebaran E.	78° 17' 17"	2996	76° 46' 59"	2987	75° 16' 30"	2978	73° 45'
	SUN E.	117 16 0	3279	115 51 24	3269	114 26 36	3257	113 1
10	Saturn W.	93 31 39	2826	95 5 33	2814	96 39 42	2801	98 14
	α Aquilæ W.	64 3 16	3633	65 21 15	3599	66 39 50	3569	67 58
	α Arietis E.	33 37 22	2887	32 4 47	2878	30 32 0	2871	28 59
	Venus E.	61 35 12	3200	60 9 3	3190	58 42 42	3179	57 16
	Aldebaran E.	66 9 25	2920	64 37 31	2909	63 5 23	2898	61 33
	SUN E.	105 52 56	3183	104 26 26	3170	102 59 41	3155	101 32
11	α Aquilæ W.	74 42 34	3404	76 4 46	3379	77 27 27	3356	78 50
	Fomalhaut W.	49 31 32	3379	50 54 13	3335	52 17 44	3293	53 42
	Venus E.	49 59 39	3107	48 31 38	3096	47 3 23	3084	45 34
	Aldebaran E.	53 47 49	2834	52 14 5	2824	50 40 8	2814	49 5
	SUN E.	94 12 55	3064	92 44 1	3048	91 14 47	3031	89 45
12	α Aquilæ W.	85 52 36	3228	87 18 12	3209	88 44 11	3191	90 10
	Fomalhaut W.	60 54 55	3077	62 23 33	3045	63 52 50	3015	65 22
	α Pegasi W.	38 12 43	3051	39 41 55	3004	41 12 3	2960	42 43
	Venus E.	38 9 1	3020	36 39 13	3012	35 9 15	3005	33 39
	Aldebaran E.	41 12 7	2763	39 36 51	2758	38 1 28	2754	36 26
	SUN E.	82 11 53	2925	80 40 6	2905	79 7 54	2888	77 35
13	α Aquilæ W.	97 27 6	3099	98 55 17	3087	100 23 42	3076	101 52
	Fomalhaut W.	73 1 7	2852	74 34 28	2827	76 8 21	2803	77 42
	α Pegasi W.	50 30 49	2740	52 6 36	2708	53 43 5	2679	55 20
	Aldebaran E.	28 29 18	2791	26 54 38	2815	25 20 29	2848	23 47
	SUN E.	69 46 17	2772	68 11 13	2753	66 35 44	2734	64 59
14	Fomalhaut W.	85 42 1	2675	87 19 14	2657	88 56 52	2639	90 34
	α Pegasi W.	63 35 10	2521	65 15 54	2497	66 57 11	2475	68 39
	α Arietis W.	20 1 10	2431	21 44 0	2396	23 27 40	2365	25 12
	SUN E.	56 53 44	2618	55 15 13	2599	53 36 17	2580	51 56
15	α Pegasi W.	77 15 32	2353	79 0 14	2336	80 45 21	2319	82 30
	α Arietis W.	34 3 27	2223	35 51 21	2204	37 39 43	2185	39 28
	SUN E.	43 33 49	2475	41 52 0	2458	40 9 47	2442	38 27
20	SUN W.	27 0 35	2351	28 45 21	2364	30 29 48	2375	32 13
	Spica ♀ E.	57 7 10	2070	55 15 24	2081	53 23 56	2094	51 32
	Mars E.	67 57 58	2213	66 9 49	2226	64 22 0	2239	62 34
	Jupiter E.	106 0 10	2063	104 8 14	2075	102 16 37	2087	100 25
21	SUN W.	40 49 39	2465	42 31 42	2482	44 13 21	2500	45 54
	Spica ♀ E.	42 22 34	2183	40 33 41	2200	38 45 14	2217	36 57
	Mars E.	53 42 28	2331	51 57 14	2348	50 12 25	2366	48 28
	Antares E.	88 7 44	2169	86 18 30	2186	84 29 41	2202	82 41
	Jupiter E.	91 13 52	2172	89 24 42	2188	87 35 56	2204	85 47
	Saturn E.	108 32 34	2168	106 43 18	2182	104 54 24	2198	102 11
22	SUN W.	54 14 40	2607	55 53 25	2627	57 31 44	2646	59 1
	Mars E.	39 52 44	2480	38 11 3	2502	36 29 52	2522	34 1
	Antares E.	73 45 21	2304	71 59 27	2321	70 13 58	2339	68 1
	Jupiter E.	76 51 58	2307	75 6 9	2325	73 20 46	2343	71 1
	Saturn E.	94 9 33	2299	92 23 32	2317	90 37 57	2335	88 1

MEAN TIME.

LUNAR DISTANCES.

r's Name and osition.	Midnight.	P. L. of diff.	XV ^b .	P. L. of diff.	XVIII ^b .	P. L. of diff.	XXI ^b .	P. L. of diff.
baran E.	72 14 57	2959	70 43 53	2949	69 12 36	2939	67 41 7	2929
E.	111 36 19	3234	110 10 50	3222	108 45 7	3209	107 19 9	3197
en W.	99 48 52	2776	101 23 52	2762	102 59 10	2747	104 34 47	2732
uilæ W.	69 18 39	3510	70 38 52	3482	71 59 36	3455	73 20 50	3429
ietis E.	27 26 0	2858	25 52 47	2853	24 19 28	2850	22 46 5	2849
is E.	55 49 17	3155	54 22 14	3143	52 54 57	3131	51 27 25	3119
baran E.	60 0 26	2876	58 27 37	2866	56 54 35	2856	55 21 19	2845
E.	100 5 18	3126	98 37 40	3111	97 9 44	3096	95 41 29	3080
uilæ W.	80 14 8	3310	81 38 8	3288	83 2 33	3267	84 27 23	3248
alhaut W.	55 7 11	3215	56 33 3	3178	57 59 39	3143	59 26 56	3109
is E.	44 6 10	3061	42 37 12	3049	41 8 0	3039	39 38 36	3030
baran E.	47 31 35	2794	45 56 59	2785	44 22 12	2777	42 47 14	2770
E.	88 15 16	2997	86 44 59	2978	85 14 19	2961	83 43 18	2943
uilæ W.	91 37 12	3157	93 4 13	3141	94 31 33	3126	95 59 11	3112
alhaut W.	66 53 15	2957	68 24 21	2929	69 56 3	2903	71 28 18	2877
gasi W.	44 15 3	2878	45 47 50	2841	47 21 24	2805	48 55 45	2772
is E.	32 8 55	2996	30 38 37	2995	29 8 18	2996	27 38 0	3001
baran E.	34 50 30	2753	33 15 1	2756	31 39 36	2763	30 4 20	2774
E.	76 2 20	2850	74 28 57	2831	72 55 9	2811	71 20 56	2792
uilæ W.	103 21 12	3057	104 50 14	3051	106 19 24	3045	107 48 41	3041
alhaut W.	79 17 39	2758	80 53 2	2736	82 28 54	2715	84 5 14	2695
gasi W.	56 57 59	2623	58 36 23	2596	60 15 24	2570	61 55 0	2546
baran E.	22 14 33	2951	20 43 19	3032	19 13 46	3143	17 46 28	3293
E.	63 23 27	2695	61 46 40	2675	60 9 26	2657	58 31 48	2638
alhaut W.	92 13 19	2605	93 52 7	2591	95 31 15	2576	97 10 43	2563
gasi W.	70 21 19	2431	72 4 9	2410	73 47 29	2391	75 31 17	2372
ietis W.	26 57 10	2311	28 42 53	2287	30 29 12	2264	32 16 4	2243
E.	50 17 7	2544	48 36 55	2525	46 56 17	2508	45 15 15	2491
gasi W.	84 16 48	2287	86 3 6	2273	87 49 45	2260	89 36 44	2247
ietis W.	41 17 49	2151	43 7 30	2135	44 57 36	2120	46 48 4	2107
E.	36 44 14	2411	35 0 55	2397	33 17 16	2383	31 33 17	2370
W.	33 57 48	2403	35 41 18	2418	37 24 27	2434	39 7 14	2449
W.	49 42 1	2122	47 51 35	2137	46 1 32	2151	44 11 51	2167
E.	60 47 22	2268	59 0 35	2282	57 14 9	2298	55 28 7	2314
ter E.	98 34 19	2113	96 43 40	2127	94 53 22	2141	93 3 26	2156
W.	47 35 26	2533	49 15 53	2552	50 55 54	2570	52 35 30	2589
W.	35 9 37	2254	33 22 29	2272	31 35 48	2291	29 49 36	2311
E.	46 44 4	2403	45 0 33	2422	43 17 29	2441	41 34 53	2460
res E.	80 53 15	2234	79 5 38	2252	77 18 27	2268	75 31 41	2286
ter E.	83 59 36	2237	82 12 3	2254	80 24 56	2271	78 38 14	2289
		231	99 30 6	2248	97 42 50	2264	95 55 58	2283
			62 24 6	2704	64 0 41	2723	65 36 51	2742
			29 16	2589	29 50 6	2612	28 11 27	2635
			0 8	2394	63 16 24	2411	61 33 5	2429
			15	2399	66 23 39	2417	64 40 29	2436
			0	2389	83 39 59	2408	81 56 35	2426

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
23	SUN W.	67 12 35	2762	68 47 53	2782	70 22 45	2801	71 57
	Mars E.	26 33 20	2661	24 55 48	2687	23 18 51	2714	21 42
	Antares E.	59 50 12	2448	58 7 45	2465	56 25 43	2484	54 44
	Jupiter E.	62 57 46	2455	61 15 30	2474	59 33 40	2493	57 52
	Saturn E.	80 13 37	2443	78 31 4	2463	76 48 58	2480	75 7
24	SUN W.	79 43 16	2914	81 15 17	2933	82 46 54	2950	84 18
	Antares E.	46 22 19	2589	44 43 9	2607	43 4 23	2624	41 26
	Jupiter E.	49 31 53	2606	47 53 6	2625	46 14 45	2643	44 36
	Saturn E.	66 45 9	2588	65 5 57	2605	63 27 9	2623	61 48
	α Aquilæ E.	99 53 41	3236	98 28 14	3247	97 3 0	3259	95 38
25	SUN W.	91 48 52	3055	93 17 57	3070	94 46 43	3087	96 15
	Antares E.	33 19 34	2720	31 43 20	2735	30 7 26	2749	28 31
	Jupiter E.	36 33 24	2756	34 57 58	2776	33 22 58	2795	31 48
	Saturn E.	53 42 24	2723	52 6 14	2738	50 30 25	2754	48 54
	α Aquilæ E.	88 37 8	3347	87 13 51	3364	85 50 53	3381	84 28
26	SUN W.	103 32 45	3174	104 59 25	3188	106 25 48	3200	107 51
	Spica η W.	25 21 51	2862	26 54 59	2870	28 27 56	2880	30 0
	Saturn E.	41 2 37	2845	39 29 8	2859	37 55 57	2874	36 23
	α Aquilæ E.	77 40 20	3497	76 19 52	3517	74 59 47	3540	73 40
27	SUN W.	114 59 1	3271	116 23 46	3282	117 48 19	3291	119 12
	Spica η W.	37 41 22	2935	39 12 56	2944	40 44 19	2953	42 15
	Mars W.	23 37 15	3164	25 4 7	3169	26 30 53	3173	27 57
	Saturn E.	28 43 24	2963	27 12 25	2980	25 41 47	2998	24 11
	Fomalhaut E.	90 23 53	3282	88 59 21	3291	87 34 59	3302	86 10
28	SUN W.	126 11 49	3344	127 35 10	3351	128 58 23	3359	130 21
	Spica η W.	49 49 9	2997	51 19 26	3003	52 49 35	3010	54 19
	Mars W.	35 9 27	3204	36 35 31	3211	38 1 27	3215	39 27
	Fomalhaut E.	79 13 1	3365	77 50 4	3376	76 27 20	3387	75 4
29	Spica η W.	61 48 4	3040	63 17 27	3043	64 46 46	3047	66 16
	Mars W.	46 35 7	3243	48 0 25	3247	49 25 39	3251	50 50
	Antares W.	15 55 10	3032	17 24 43	3036	18 54 11	3040	20 23
	Fomalhaut E.	68 15 38	3462	66 54 31	3476	65 33 40	3490	64 13
	α Pegasi E.	89 10 22	3200	87 44 13	3204	86 18 8	3209	84 52
30	Spica η W.	73 41 12	3065	75 10 5	3067	76 38 55	3068	78 7
	Mars W.	57 55 42	3267	59 20 32	3270	60 45 19	3271	62 10
	Antares W.	27 49 28	3058	29 18 29	3061	30 47 27	3062	32 16
	Jupiter W.	25 30 51	3137	26 58 16	3131	28 25 48	3125	29 53
	Fomalhaut E.	57 34 38	3594	56 15 57	3615	54 57 39	3637	53 39
	α Pegasi E.	77 43 33	3235	76 18 5	3240	74 52 43	3243	73 27
31	Mars W.	69 13 30	3277	70 38 8	3277	72 2 46	3277	73 27
	Antares W.	39 40 38	3069	41 9 26	3069	42 38 14	3069	44 7
	Jupiter W.	37 12 48	3106	38 40 50	3103	40 8 56	3101	41 37
	Saturn W.	20 12 48	3159	21 39 46	3146	23 7 0	3136	24 34
	Fomalhaut E.	47 17 19	3813	46 2 30	3852	44 48 21	3893	43 34
	α Pegasi E.	66 22 18	3272	64 57 34	3277	63 32 56	3282	62 8

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
	° ' "		° ' "		° ' "		° ' "	
W.	73 31 14	2839	75 4 51	2858	76 38 4	2877	78 10 52	2896
rs	E. 20 6 50	2777	18 31 52	2813	16 57 41	2855	15 24 24	2904
ares	E. 53 2 56	2520	51 22 10	2538	49 41 49	2555	48 1 52	2572
iter	E. 56 11 20	2530	54 30 49	2550	52 50 45	2568	51 11 6	2587
urn	E. 73 26 1	2517	71 45 11	2534	70 4 45	2553	68 24 45	2570
W.	85 49 1	2986	87 19 31	3004	88 49 39	3021	90 19 26	3038
ares	E. 39 48 0	2656	38 10 21	2672	36 33 4	2689	34 56 9	2704
iter	E. 42 59 18	2681	41 22 12	2699	39 45 31	2718	38 9 15	2737
urn	E. 60 10 43	2657	58 33 5	2673	56 55 49	2690	55 18 56	2706
quillæ	E. 94 13 17	3286	92 48 49	3301	91 24 38	3315	90 0 44	3331
W.	97 43 16	3117	99 11 5	3132	100 38 36	3147	102 5 49	3161
ares	E. 26 56 36	2777	25 21 38	2792	23 46 59	2805	22 12 37	2818
iter	E. 30 14 15	2835	28 40 32	2857	27 7 18	2879	25 34 32	2903
urn	E. 47 19 50	2785	45 45 2	2801	44 10 35	2815	42 36 26	2830
quillæ	E. 83 5 57	3417	81 44 0	3437	80 22 25	3455	79 1 11	3475
W.	109 17 50	3226	110 43 28	3238	112 8 52	3249	113 34 3	3260
ca. m.	W. 31 33 12	2899	33 5 32	2909	34 37 40	2917	36 9 37	2927
urn	E. 34 50 31	2902	33 18 15	2918	31 46 19	2933	30 14 42	2948
quillæ	E. 72 20 52	3586	71 2 2	3610	69 43 38	3636	68 25 42	3662
W.	120 36 51	3311	122 0 50	3319	123 24 39	3327	124 48 19	3336
ca. m.	W. 43 46 34	2969	45 17 26	2976	46 48 9	2982	48 18 44	2990
rs	W. 29 24 10	3183	30 50 39	3188	32 17 2	3194	33 43 18	3200
urn	E. 22 41 38	3036	21 12 10	3059	19 43 10	3084	18 14 41	3115
nalhaut	E. 84 46 52	3322	83 23 6	3332	81 59 32	3343	80 36 10	3354
W.	131 44 24	3371	133 7 14	3377	134 29 57	3383	135 52 33	3387
ca. m.	W. 55 49 31	3021	57 19 18	3026	58 48 59	3031	60 18 34	3035
rs	W. 40 53 3	3226	42 18 42	3231	43 44 15	3234	45 9 44	3239
nalhaut	E. 73 42 31	3411	72 20 27	3423	70 58 36	3436	69 37 0	3448
ca. m.	W. 67 45 10	3054	69 14 16	3057	70 43 18	3060	72 12 17	3063
rs	W. 52 15 53	3257	53 40 55	3259	55 5 54	3262	56 30 50	3265
ares	W. 21 52 53	3047	23 22 7	3051	24 51 17	3053	26 20 24	3056
nalhaut	E. 62 52 46	3522	61 32 46	3538	60 13 4	3555	58 53 41	3574
egasi	E. 83 26 16	3217	82 0 27	3222	80 34 44	3226	79 9 6	3231
ca. m.	W. 79 36 30	3071	81 5 15	3073	82 33 58	3074	84 2 40	3074
rs	W. 63 34 48	3273	64 59 31	3276	66 24 11	3276	67 48 51	3277
ares	W. 33 45 16	3065	35 14 9	3067	36 42 59	3067	38 11 49	3068
iter	W. 31 21 11	3118	32 48 59	3114	34 16 52	3111	35 44 48	3108
nalhaut	E. 52 22 17	3687	51 5 16	3715	49 48 45	3745	48 32 45	3777
egasi	E. 72 2 13	3253	70 37 6	3258	69 12 5	3262	67 47 9	3266
rs	W. 74 52 2	3277	76 16 40	3277	77 41 18	3276	79 5 58	3276
ares	W. 45 35 49	3069	47 4 37	3068	48 33 26	3067	50 2 16	3067
iter	W. 43 5 15	3096	44 33 29	3095	46 1 45	3093	47 30 3	3091
urn	W. 26 2 4	3119	27 29 50	3111	28 57 46	3106	30 25 48	3101
nalhaut	E. 42 22 14	3990	41 10 25	4046	39 59 31	4109	38 49 38	4178
egasi	E. 60 43 59	3294	59 19 41	3301	57 55 31	3308	56 31 29	3316

CONFIGURATIONS OF THE SATELLITES OF JUPITER.

At 9^h 45^m, MEAN TIME.

Day of the Month.	<i>West.</i>				<i>East.</i>			
1		4.		•2	○	1.	3.	
2		.4			•1	○	3.	•2
3		•4		3.		○	1.	2.
4		•4	.3	2.	•○1			
5			•4	•3	•2	1.	○	
6				•4	○	•3	1.	2.
7				1.	○	•4		•3
8				•2	○	1.		3. •4
9				•1	○	•2	3.	
10				3.	○	1.	2.	
11			3.	2.	•1	○		•4
12	1. ○		•3	•2	○			4.
13					○	•3	1.	•2
14				1.	○	2.	4.	•3
15			.2	4.	○	•1		3.
16			4.	•1	○	•2	3.	
17		4.		3.	○	1.	2.	
18		4.	3.	2.	•1	○		
19		.4		•3	•2	○	1.	
20		•4			•○3		•2	
21			•4		1.	○	2.	•3
22				•4	.2	○	•1	3.
23	•2 ●			1.	•○4		3.	
24				3.	○	1.	•4	2.
25			3.	•1	2.	○		•4
26			•3	•2	○	1.		•4
27	•1 ●				•3	○	•2	
28					1.	○	2.	•3
29			2.		○	•1	3.	4.
30				1.	•○2		3.	4.
31				3.	○	4.	•1	2.

This Table represents, at 9^h 45^m after *Mean Noon* of each day of the month, the relative position of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page, the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the numerals*. When a satellite is at its greatest elongation, the point is placed above or below the centre of the numeral circle (○) at the left or right hand of the page, denotes that the Satellite placed by the numeral is on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *foreground* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

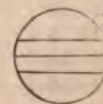
SATELLITE.	Day of the Month.	Mean Time. h m s	Sidereal Time. h m s	PHASE as seen in an inverting Telescope.
I.	2	18 17 53.2	1 2 18.0	Em.
	4	12 46 39.3	19 38 2.8	Em.
	6	7 15 18.8	14 13 40.9	Em.
	8	1 44 4.0	8 49 24.8	Em.
	9	20 12 45.2	3 25 4.8	Em.
	11	14 41 32.3	22 0 50.6	Em.
	13	9 10 12.8	16 36 29.8	Em.
	15	3 38 59.0	11 12 14.6	Em.
	16	22 7 41.2	5 47 55.5	Em.
	18	16 36 29.2	0 23 42.2	Em.
	20*	11 5 10.8	18 59 22.5	Em.
	22	5 33 57.4	13 35 7.8	Em.
	24	0 2 40.4	8 10 49.6	Em.
	25	18 31 29.1	2 46 37.0	Em.
	27	13 0 11.6	21 22 18.1	Em.
	29	7 28 58.7	15 58 3.9	Em.
	31	1 57 42.3	10 33 46.2	Em.
II.	2	4 12 15.6	10 54 21.4	Em.
	5	17 30 4.9	0 26 11.4	Em.
	9	6 47 50.2	13 57 57.5	Em.
	12	20 5 48.4	3 29 56.4	Em.
	16*	9 23 39.4	17 1 48.3	Em.
	19	22 41 46.5	6 33 56.1	Em.
	23	11 59 42.6	20 5 53.0	Em.
	27	1 17 58.4	9 38 9.5	Em.
	30	14 35 59.9	23 10 11.8	Em.
III.	6	6 27 21.9	13 25 36.2	Im.
	6	9 0 55.4	15 59 34.9	Em.
	13*	10 26 16.3	17 52 45.8	Im.
	13	13 0 40.9	20 27 35.7	Em.
	20	14 25 50.1	22 20 34.8	Im.
	20	17 1 5.6	0 56 15.8	Em.
	27	18 25 10.6	2 48 10.5	Im.
	27	21 1 18.9	5 24 44.5	Em.



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APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
I.	d h m	d h m	d h m	d h m	d h m	d h m
	2 22 12		1 0 50	1 3 4	1 1 26	1 3 4
	4* 16 45		3* 19 23	3 21 37	3 20 2	3 22 1
	6 11 19		5 13 56	5 16 11	5 14 37	5* 16 5
	7 5 52		7 8 30	7 10 44	7 9 13	7 11 3
	9 0 26		8 3 3	8 5 18	8 3 49	8 6
	11* 19 0		10 21 37	10 23 51	10 22 24	10 0
	13 13 33	In	12 16 11	12* 18 25	12* 17 0	12* 19
	15 8 7		14 10 44	14 12 59	14 11 36	14 13
	16 2 41	the	15 5 18	15 7 33	15 6 11	16 8
	18 21 15		17 23 52	17 2 6	17 0 47	17 3
	20 15 49	Shadow.	19* 18 26	19 20 40	19* 19 23	19 21
	22 10 23		21 13 0	21 15 15	21 13 58	21 16
	23 4 57		22 7 34	23 9 49	23 8 34	23 10
	25 23 32		24 2 8	24 4 23	24 3 10	24 5
	27* 18 6		26 20 42	26 22 57	26 21 45	26 0
	29 12 40		28 15 17	28* 17 32	28 16 21	28* 18
	30 7 15		30 9 51	30 12 6	30 10 57	30 13
			31 4 26	31 6 40	31 5 32	31 7
II.	2 7 6		3 2 15	3 4 50	3 3 33	3 6
	5 20 29		7 15 39	7* 18 14	7* 17 5	7 19
	9 9 52	In	10 5 3	11 7 38	10 6 37	11 9
	12 23 16		14* 18 28	14 21 3	14 20 10	14 22
	16 12 40	the	18 7 53	18 10 28	18 9 42	18 12
	19 2 5		21 21 18	21 23 54	21 23 14	21 1
	23 15 30	Shadow.	25 10 44	25 13 20	25 12 46	25 15
	26 4 56		28 0 10	28 2 46	28 2 19	28 4
	30* 18 23					
III.	6 10 31	6 13 10	2 20 40	2 23 19	2 23 11	2 1
	13 14 25	13* 17 6	9 0 33	9 3 14	9 3 38	9 6
	20* 18 23	20 21 6	16 4 29	16 7 11	17 8 6	17 10
	27 22 26	27 1 10	24 8 29	24 11 12	24 12 33	24 15
			31 12 33	31 15 18	31 17 0	31 19

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h .809526.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D		Days.		
1	+0.5053	-1.3023	+9.8820	-0.7421	^h 17 ^m 19 ^s 41.36	100	181	.496
2	0.5449	1.3010	9.8841	0.7421	17 15 45.44	101	182	.498
3	0.5811	1.2995	9.8862	0.7422	17 11 49.53	102	183	.501
4	+0.6144	-1.2980	+9.8883	-0.7423	17 7 53.62	103	184	.504
5	0.6452	1.2963	9.8904	0.7424	17 3 57.71	104	185	.507
6	0.6738	1.2945	9.8924	0.7426	17 0 1.80	105	186	.509
7	+0.7006	-1.2925	+9.8945	-0.7428	16 56 5.88	106	187	.512
8	0.7257	1.2904	9.8965	0.7431	16 52 9.97	107	188	.515
9	0.7493	1.2882	9.8985	0.7434	16 48 14.06	108	189	.517
10	+0.7716	-1.2859	+9.9005	-0.7437	16 44 18.15	109	190	.520
11	0.7927	1.2834	9.9024	0.7441	16 40 22.23	110	191	.523
12	0.8127	1.2808	9.9044	0.7445	16 36 26.32	111	192	.526
13	+0.8317	-1.2780	+9.9063	-0.7449	16 32 30.41	112	193	.528
14	0.8498	1.2751	9.9082	0.7454	16 28 34.50	113	194	.531
15	0.8670	1.2721	9.9101	0.7459	16 24 38.59	114	195	.534
16	+0.8835	-1.2689	+9.9120	-0.7465	16 20 42.67	115	196	.537
17	0.8993	1.2656	9.9138	0.7470	16 16 46.76	116	197	.539
18	0.9144	1.2621	9.9156	0.7476	16 12 50.85	117	198	.542
19	+0.9289	-1.2585	+9.9174	-0.7483	16 8 54.94	118	199	.545
20	0.9428	1.2548	9.9192	0.7489	16 4 59.03	119	200	.548
21	0.9561	1.2508	9.9210	0.7496	16 1 3.12	120	201	.550
22	+0.9690	-1.2467	+9.9228	-0.7503	15 57 7.21	121	202	.553
23	0.9813	1.2425	9.9245	0.7510	15 53 11.30	122	203	.556
24	0.9932	1.2381	9.9262	0.7518	15 49 15.38	123	204	.559
25	+1.0047	-1.2335	+9.9279	-0.7525	15 45 19.47	124	205	.561
26	1.0157	1.2288	9.9296	0.7533	15 41 23.56	125	206	.564
27	1.0264	1.2238	9.9312	0.7541	15 37 27.65	126	207	.567
28	+1.0367	-1.2187	+9.9329	-0.7549	15 33 31.74	127	208	.569
29	1.0466	1.2134	9.9345	0.7558	15 29 35.83	128	209	.572
30	1.0562	1.2080	9.9361	0.7566	15 25 39.92	129	210	.575
31	.	1.2023	9.9377	0.7575	15 21 44.01	130	211	.578
			9.9392	-0.7583	15 17 48.10	131	212	.580

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be added to	D
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.	subt. from Apparent Time.		
		h m s	s	° ' "	"	m s	m s	s
Sun.	1	8 45 41·91	9·695	N. 18 1 35·8	38·17	1 6·58	5 59·80	0
Mon.	2	8 49 34·59	9·669	17 46 19·7	38·89	1 6·49	5 55·92	0
Tues.	3	8 53 26·65	9·645	17 30 46·3	39·60	1 6·40	5 51·44	0
Wed.	4	8 57 18·12	9·620	17 14 55·8	40·31	1 6·32	5 46·37	0
Thur.	5	9 1 9·00	9·596	16 58 48·4	41·00	1 6·23	5 40·70	0
Frid.	6	9 4 59·30	9·571	16 42 24·5	41·68	1 6·14	5 34·46	0
Sat.	7	9 8 49·01	9·548	16 25 44·2	42·34	1 6·06	5 27·64	0
Sun.	8	9 12 38·15	9·524	16 8 48·0	43·00	1 5·97	5 20·25	0
Mon.	9	9 16 26·73	9·501	15 51 36·1	43·64	1 5·89	5 12·29	0
Tues.	10	9 20 14·75	9·478	15 34 8·8	44·27	1 5·81	5 3·78	0
Wed.	11	9 24 2·21	9·455	15 16 26·3	44·88	1 5·73	4 54·71	0
Thur.	12	9 27 49·12	9·432	14 58 29·2	45·49	1 5·65	4 45·09	0
Frid.	13	9 31 35·49	9·410	14 40 17·5	46·08	1 5·57	4 34·94	0
Sat.	14	9 35 21·33	9·388	14 21 51·6	46·65	1 5·49	4 24·25	0
Sun.	15	9 39 6·64	9·366	14 3 12·0	47·21	1 5·41	4 13·03	0
Mon.	16	9 42 51·43	9·344	13 44 18·9	47·76	1 5·33	4 1·30	0
Tues.	17	9 46 35·69	9·323	13 25 12·6	48·29	1 5·26	3 49·04	0
Wed.	18	9 50 19·45	9·302	13 5 53·6	48·81	1 5·19	3 36·28	0
Thur.	19	9 54 2·71	9·282	12 46 22·1	49·32	1 5·12	3 23·01	0
Frid.	20	9 57 45·47	9·261	12 26 38·5	49·81	1 5·05	3 9·26	0
Sat.	21	10 1 27·74	9·241	12 6 43·1	50·28	1 4·98	2 55·02	0
Sun.	22	10 5 9·53	9·222	11 46 36·4	50·75	1 4·91	2 40·29	0
Mon.	23	10 8 50·86	9·203	11 26 18·5	51·19	1 4·84	2 25·11	0
Tues.	24	10 12 31·74	9·185	11 5 49·9	51·63	1 4·78	2 9·48	0
Wed.	25	10 16 12·18	9·167	10 45 10·8	52·05	1 4·72	1 53·41	0
Thur.	26	10 19 52·20	9·150	10 24 21·6	52·46	1 4·66	1 36·92	0
Frid.	27	10 23 31·80	9·134	10 3 22·5	52·85	1 4·60	1 20·01	0
Sat.	28	10 27 11·02	9·118	9 42 14·0	53·24	1 4·55	1 2·72	0
Sun.	29	10 30 49·86	9·104	9 20 56·3	53·61	1 4·50	0 45·05	0
Mon.	30	10 34 28·35	9·090	8 59 29·6	53·97	1 4·45	0 27·04	0
Tues.	31	10 38 6·50	9·077	8 37 54·4	54·32	1 4·40	0 8·69	0
Wed.	32	10 41 44·34		N. 8 16 10·8		1 4·36	0 9·98	

* Mean Time of the Semidiameter passing may be found by subtracting 0^m 18 from the *Sidereal* T

AT MEAN NOON.

	Day of the Month.	THE SUN'S			Equation of Time, to be subt. from	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*	added to Mean Time.	
		h m s	° ' "	' "	m s	h m s
n.	1	8 45 40·94	N.18 1 39·6	15 47·1	5 59·81	8 39 41·13
n.	2	8 49 33·63	17 46 23·5	15 47·2	5 55·94	8 43 37·69
es.	3	8 53 25·71	17 30 50·1	15 47·3	5 51·46	8 47 34·25
d.	4	8 57 17·19	17 14 59·6	15 47·5	5 46·39	8 51 30·80
ar.	5	9 1 8·09	16 58 52·3	15 47·6	5 40·73	8 55 27·36
d.	6	9 4 58·40	16 42 28·3	15 47·8	5 34·49	8 59 23·91
	7	9 8 48·14	16 25 48·1	15 47·9	5 27·67	9 3 20·47
n.	8	9 12 37·30	16 8 51·8	15 48·1	5 20·28	9 7 17·03
n.	9	9 16 25·90	15 51 39·9	15 48·2	5 12·32	9 11 13·58
es.	10	9 20 13·95	15 34 12·5	15 48·4	5 3·81	9 15 10·14
d.	11	9 24 1·44	15 16 30·0	15 48·5	4 51·75	9 19 6·69
ur.	12	9 27 48·37	14 58 32·7	15 48·7	4 45·13	9 23 3·25
d.	13	9 31 34·77	14 40 21·0	15 48·8	4 34·97	9 26 59·81
	14	9 35 20·64	14 21 55·1	15 49·0	4 24·28	9 30 56·36
n.	15	9 39 5·98	14 3 15·3	15 49·2	4 13·07	9 34 52·92
n.	16	9 42 50·80	13 44 22·1	15 49·4	4 1·33	9 38 49·47
es.	17	9 46 35·10	13 25 15·7	15 49·6	3 49·07	9 42 46·03
d.	18	9 50 18·89	13 5 56·5	15 49·8	3 36·31	9 46 42·58
ar.	19	9 54 2·18	12 46 24·9	15 50·0	3 23·04	9 50 39·14
d.	20	9 57 44·98	12 26 41·1	15 50·2	3 9·29	9 54 35·69
	21	10 1 27·29	12 6 45·6	15 50·4	2 55·05	9 58 32·25
n.	22	10 5 9·12	11 46 38·6	15 50·6	2 40·32	10 2 28·80
n.	23	10 8 50·49	11 26 20·6	15 50·8	2 25·14	10 6 25·36
es.	24	10 12 31·41	11 5 51·7	15 51·0	2 9·50	10 10 21·91
d.	25	10 16 11·89	10 45 12·4	15 51·2	1 53·43	10 14 18·47
ur.	26	10 19 51·95	10 24 23·0	15 51·5	1 36·93	10 18 15·02
id.	27	10 23 31·60	10 3 23·7	15 51·7	1 20·03	10 22 11·57
t.	28	10 27 10·86	9 42 14·9	15 51·9	1 2·73	10 26 8·13
n.	29	10 30 49·75	9 20 56·9	15 52·1	0 45·06	10 30 4·68
n.	30		9 0 0·0	15 52·4	0 27·05	10 34 1·24
es.	31			15 52·6	0 8·69	10 37 57·79
ed.	32			52·8	0 9·98	10 41 54·35

* The Sem

same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
	^o ['] ["]	["]		['] ["]	['] ["]	['] ["]	['] ["]
1	128 59 2 2	S. 0 44	0 0062992	14 41 8	14 42 2	53 55 9	53 57 7
2	129 56 27 5	0 31	0 0062385	14 43 0	14 44 2	54 0 5	54 4 1
3	130 53 53 8	0 18	0 0061765	14 45 7	14 47 6	54 10 4	54 17 4
4	131 51 21 1	S. 0 06	0 0061134	14 49 9	14 52 5	54 25 7	54 35 3
5	132 48 49 6	N. 0 05	0 0060490	14 55 5	14 58 9	54 46 3	54 58 7
6	133 46 19 4	0 14	0 0059833	15 2 6	15 6 7	55 12 4	55 27 4
7	134 43 50 5	0 20	0 0059164	15 11 2	15 16 1	55 44 0	56 1 9
8	135 41 22 9	0 24	0 0058480	15 21 4	15 27 1	56 21 4	56 42 1
9	136 38 56 7	0 24	0 0057781	15 33 0	15 39 3	57 4 0	57 27 0
10	137 36 32 1	0 21	0 0057065	15 45 8	15 52 5	57 50 9	58 13 3
11	138 34 8 9	0 16	0 0056332	15 59 3	16 6 0	58 40 2	59 4 8
12	139 31 47 1	N. 0 07	0 0055580	16 12 5	16 18 6	59 28 7	59 51 3
13	140 29 26 8	S. 0 04	0 0054809	16 24 2	16 29 2	60 11 9	60 29 9
14	141 27 8 1	0 16	0 0054017	16 33 3	16 36 3	60 45 0	60 56 3
15	142 24 50 8	0 29	0 0053204	16 38 3	16 39 0	61 3 4	61 6 2
16	143 22 35 0	0 42	0 0052371	16 38 5	16 36 6	61 4 1	60 57 4
17	144 20 20 5	0 55	0 0051516	16 33 6	16 29 4	60 46 3	60 31 0
18	145 18 7 4	0 67	0 0050640	16 24 3	16 18 2	60 12 0	59 49 6
19	146 15 55 6	0 77	0 0049742	16 11 4	16 4 1	59 24 8	58 57 9
20	147 13 45 2	0 84	0 0048824	15 56 5	15 48 7	58 29 9	58 1 5
21	148 11 36 0	0 89	0 0047888	15 41 0	15 33 4	57 33 1	57 5 4
22	149 9 27 9	0 91	0 0046934	15 26 2	15 19 4	56 38 9	56 13 8
23	150 7 21 1	0 90	0 0045965	15 13 0	15 7 2	55 50 5	55 29 2
24	151 5 15 6	0 86	0 0044981	15 2 1	14 57 5	55 10 4	54 53 7
25	152 3 11 3	0 79	0 0043983	14 53 7	14 50 4	54 39 5	54 27 6
26	153 1 8 3	0 69	0 0042973	14 47 8	14 45 8	54 18 1	54 10 8
27	153 59 6 6	0 58	0 0041952	14 44 4	14 43 7	54 5 6	54 2 8
28	154 57 6 3	0 45	0 0040921	14 43 4	14 43 6	54 1 7	54 2 4
29	155 55 7 4	0 32	0 0039882	14 44 3	14 45 4	54 5 0	54 9 3
30	156 53 10 0	0 19	0 0038837	14 47 0	14 48 9	54 14 9	54
31	157 51 14 1	S. 0 06	0 0037786	14 51 1	14 53 6	54 30 0	54
32	158 49 19 9	N. 0 06	0 0036730	14 56 5	14 59 5	54 49 8	55

MEAN TIME.

THE MOON'S

THE MOON'S													
Day of the Month.		Longitude.				Latitude.				Age.		Meridian Passage.	
		Noon.		Midnight.		Noon.		Midnight.		Noon.			
n.	1	299° 1' 9"	304° 55' 19"	S. 0° 55' 21"	S. 0° 22' 48"	13 ^d 9 ^h	11 47 ^m 5						
on.	2	310 50 0	316 45 29	N. 0 10 1	N. 0 42 49	14 9	12 31						
es.	3	322 42 3	328 39 58	1 15 14	1 46 58	15 9	13 13						
ed.	4	334 39 31	340 40 59	2 17 38	2 46 57	16 9	13 54						
ur.	5	346 44 39	352 50 51	3 14 33	3 40 7	17 9	14 34						
id.	6	358 59 54	5 12 7	4 3 21	4 23 56	18 9	15 16						
t.	7	11 27 50	17 47 25	4 41 33	4 55 57	19 9	15 59						
n.	8	24 11 12	30 39 32	5 6 51	5 14 0	20 9	16 46						
on.	9	37 12 43	43 51 3	5 17 11	5 16 12	21 9	17 37						
es.	10	50 34 47	57 24 6	5 10 54	5 1 10	22 9	18 33						
ed.	11	64 19 8	71 19 54	4 46 58	4 28 19	23 9	19 34						
ur.	12	78 26 18	85 38 9	4 5 19	3 38 11	24 9	20 37						
id.	13	92 55 5	100 16 36	3 7 13	2 32 50	25 9	21 41						
t.	14	107 42 5	115 10 45	1 55 33	N. 1 16 4	26 9	22 42						
n.	15	122 41 41	130 13 52	N. 0 35 3	S. 0 6 40	27 9	23 40						
on.	16	137 46 13	145 17 36	S. 0 48 17	1 28 56	28 9	0						
es.	17	152 46 56	160 13 8	2 7 51	2 44 17	0 6	0 34						
ed.	18	167 35 15	174 52 24	3 17 37	3 47 20	1 6	1 25						
ur.	19	182 3 54	189 9 13	4 13 1	4 34 25	2 6	2 14						
id.	20	196 8 0	203 0 1	4 51 22	5 3 50	3 6	3 3						
t.	21	209 45 16	216 23 51	5 11 52	5 15 32	4 6	3 52						
n.	22	222 55 59	229 22 1	5 15 1	5 10 32	5 6	4 42						
on.	23	235 42 21	241 57 30	5 2 19	4 50 35	6 6	5 33						
es.	24	248 7 59	254 14 23	4 35 37	4 17 41	7 6	6 25						
ed.	25	260 17 15	266 17 11	3 57 2	3 33 56	8 6	7 17						
ur.	26	272 14 47	278 10 35	3 8 40	2 41 29	9 6	8 8						
id.	27	284 5 11	289 59 3	2 12 42	1 42 33	10 6	8 57						
t.	28	295 52 43	301 46 38	1 11 21	S. 0 39 22	11 6	9 44						
n.	29	307 41 14	313 36 53	S. 0 6 56	N. 0 25 37	12 6	10 29						
on.	30	319 33 56	325 32 43	N. 0 58 1	1 29 53	13 6	11 11						
es.	31	331 24 43	336 30 1	2 0 55	2 30 44	14 6	11 53						
ed.	31			2 59 0	N. 3 25 23	15 6	12 34						

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SUNDAY 1.				TUESDAY 3.			
0	^h 20 ^m 5 ^s 28.15	S. 21 16 36.6	87.92	0	^h 21 38 32.37	S. 12 46 30.3	121.92
1	20 7 29.51	21 7 49.1	88.80	1	21 40 24.17	12 34 16.9	121.92
2	20 9 30.63	20 58 56.3	89.72	2	21 42 15.83	12 22 0.5	121.92
3	20 11 31.53	20 49 58.0	90.62	3	21 44 7.34	12 9 40.9	121.92
4	20 13 32.19	20 40 54.3	91.48	4	21 45 58.71	11 57 18.4	121.92
5	20 15 32.63	20 31 45.4	92.35	5	21 47 49.95	11 44 52.9	121.92
6	20 17 32.84	20 22 31.3	93.23	6	21 49 41.05	11 32 24.5	121.92
7	20 19 32.82	20 13 11.9	94.08	7	21 51 32.02	11 19 53.2	121.92
8	20 21 32.57	20 3 47.4	94.93	8	21 53 22.87	11 7 19.1	121.92
9	20 23 32.10	19 54 17.8	95.77	9	21 55 13.59	10 54 42.2	121.92
10	20 25 31.40	19 44 43.2	96.62	10	21 57 4.18	10 42 2.6	121.92
11	20 27 30.48	19 35 3.5	97.43	11	21 58 54.66	10 29 20.4	121.92
12	20 29 29.33	19 25 18.9	98.25	12	22 0 45.02	10 16 35.5	121.92
13	20 31 27.96	19 15 29.4	99.07	13	22 2 35.27	10 3 48.0	121.92
14	20 33 26.37	19 5 35.0	99.85	14	22 4 25.42	9 50 58.0	121.92
15	20 35 24.56	18 55 35.9	100.65	15	22 6 15.46	9 38 5.6	121.92
16	20 37 22.53	18 45 32.0	101.45	16	22 8 5.39	9 25 10.6	121.92
17	20 39 20.28	18 35 23.3	102.20	17	22 9 55.23	9 12 13.3	121.92
18	20 41 17.82	18 25 10.1	102.98	18	22 11 44.97	8 59 13.7	131.92
19	20 43 15.14	18 14 52.2	103.75	19	22 13 34.62	8 46 11.7	131.92
20	20 45 12.25	18 4 29.7	104.48	20	22 15 24.18	8 33 7.5	131.92
21	20 47 9.14	17 54 2.8	105.23	21	22 17 13.66	8 20 1.0	131.92
22	20 49 5.83	17 43 31.4	105.97	22	22 19 3.05	8 6 52.4	131.92
23	20 51 2.30	S. 17 32 55.6	106.70	23	22 20 52.37	S. 7 53 41.7	131.92
MONDAY 2.				WEDNESDAY 4.			
0	20 52 58.58	S. 17 22 15.4	107.42	0	22 22 41.61	S. 7 40 28.9	131.92
1	20 54 54.65	17 11 30.9	108.12	1	22 24 30.78	7 27 14.1	131.92
2	20 56 50.51	17 0 42.2	108.83	2	22 26 19.88	7 13 57.2	131.92
3	20 58 46.17	16 49 49.2	109.52	3	22 28 8.92	7 0 38.5	131.92
4	21 0 41.63	16 38 52.1	110.20	4	22 29 57.90	6 47 17.9	131.92
5	21 2 36.90	16 27 50.9	110.88	5	22 31 46.82	6 33 55.4	131.92
6	21 4 31.97	16 16 45.6	111.55	6	22 33 35.68	6 20 31.1	131.92
7	21 6 26.84	16 5 36.3	112.22	7	22 35 24.50	6 7 5.1	131.92
8	21 8 21.52	15 54 23.0	112.87	8	22 37 13.27	5 53 37.4	131.92
9	21 10 16.02	15 43 5.8	113.52	9	22 39 2.00	5 40 8.0	131.92
10	21 12 10.33	15 31 44.7	114.13	10	22 40 50.69	5 26 37.0	131.92
11	21 14 4.45	15 20 19.9	114.78	11	22 42 39.35	5 13 4.4	131.92
12	21 15 58.38	15 8 51.2	115.40	12	22 44 27.98	4 59 30.3	131.92
13	21 17 52.14	14 57 18.8	116.02	13	22 46 16.58	4 45 54.8	131.92
14	21 19 45.73	14 45 42.7	116.62	14	22 48 5.16	4 32 17.8	131.92
15	21 21 39.14	14 34 3.0	117.20	15	22 49 53.71	4 18 39.4	131.92
16	21 23 32.37	14 22 19.8	117.82	16	22 51 42.25	4 4 59.7	131.92
17	21 25 25.44	14 10 32.9	118.38	17	22 53 30.79	3 51 18.7	131.92
18	21 27 18.34	13 58 42.6	118.95	18	22 55 19.32	3 37 36.5	131.92
19	21 29 11.07	13 46 48.9	119.52	19	22 57 7.7	3 23 53.1	131.92
20	21 31 3.65	13 34 51.8	120.08	20	22 58 5.7		
21	21 32 56.06	13 22 51.3	120.63	21	23 0 0.0		
22	21 34 48.31	13 10 47.5	121.17	22			
23	21 36 40.41	12 58 40.5	121.70	23			
24	21 38 32.37	S. 12 46 30.3		24			

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

h.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 5.				SATURDAY 7.			
	<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>		<i>h m s</i>	<i>° ′ ″</i>	<i>″</i>
0	23 6 10.51	S. 2 14 59.6	138.28	0	0 34 43.51	N. 8 51 13.5	136.02
1	23 7 59.09	2 1 9.9	138.42	1	0 36 38.13	9 4 49.6	135.73
2	23 9 47.70	1 47 19.4	138.57	2	0 38 32.98	9 18 24.0	135.47
3	23 11 36.33	1 33 28.0	138.68	3	0 40 28.07	9 31 56.8	135.18
4	23 13 25.00	1 19 35.9	138.82	4	0 42 23.41	9 45 27.9	134.90
5	23 15 13.70	1 5 43.0	138.93	5	0 44 19.00	9 58 57.3	134.58
6	23 17 2.44	0 51 49.4	139.05	6	0 46 14.84	10 12 24.8	134.27
7	23 18 51.23	0 37 55.1	139.13	7	0 48 10.94	10 25 50.4	133.93
8	23 20 40.07	0 24 0.3	139.22	8	0 50 7.31	10 39 14.0	133.62
9	23 22 28.96	S. 0 10 5.0	139.32	9	0 52 3.94	10 52 35.7	133.25
10	23 24 17.91	N. 0 3 50.9	139.38	10	0 54 0.84	11 5 55.2	132.90
11	23 26 6.92	0 17 47.2	139.45	11	0 55 58.03	11 19 12.6	132.53
12	23 27 56.00	0 31 43.9	139.52	12	0 57 55.49	11 32 27.8	132.15
13	23 29 45.15	0 45 41.0	139.55	13	0 59 53.24	11 45 40.7	131.77
14	23 31 34.37	0 59 38.3	139.60	14	1 1 51.28	11 58 51.3	131.35
15	23 33 23.67	1 13 35.9	139.63	15	1 3 49.62	12 11 59.4	130.95
16	23 35 13.05	1 27 33.7	139.67	16	1 5 48.26	12 25 5.1	130.53
17	23 37 2.52	1 41 31.7	139.68	17	1 7 47.20	12 38 8.3	130.08
18	23 38 52.08	1 55 29.8	139.70	18	1 9 46.45	12 51 8.8	129.65
19	23 40 41.74	2 9 28.0	139.70	19	1 11 46.02	13 4 6.7	129.18
20	23 42 31.49	2 23 26.2	139.68	20	1 13 45.90	13 17 1.8	128.73
21	23 44 21.36	2 37 24.3	139.67	21	1 15 46.11	13 29 54.2	128.23
22	23 46 11.33	2 51 22.3	139.67	22	1 17 46.64	13 42 43.6	127.75
23	23 48 1.41	N. 3 5 20.3	139.62	23	1 19 47.51	N. 13 55 30.1	127.25
FRIDAY 6.				SUNDAY 8.			
0	23 49 51.61	N. 3 19 18.0	139.58	0	1 21 48.71	N. 14 8 13.6	126.73
1	23 51 41.94	3 33 15.5	139.53	1	1 23 50.25	14 20 54.0	126.22
2	23 53 32.39	3 47 12.7	139.48	2	1 25 52.14	14 33 31.3	125.67
3	23 55 22.97	4 1 9.6	139.42	3	1 27 54.38	14 46 5.3	125.12
4	23 57 13.69	4 15 6.1	139.35	4	1 29 56.97	14 58 36.0	124.57
5	23 59 4.55	4 29 2.2	139.25	5	1 31 59.91	15 11 3.4	123.98
6	0 0 55.56	4 42 57.7	139.17	6	1 34 3.22	15 23 27.3	123.38
7	0 2 46.71	4 56 52.7	139.08	7	1 36 6.89	15 35 47.6	122.80
8	0 4 38.02	5 10 47.2	138.97	8	1 38 10.94	15 48 4.4	122.17
9	0 6 29.48	5 24 41.0	138.83	9	1 40 15.35	16 0 17.4	121.57
10	0 8 21.11	5 38 34.0	138.73	10	1 42 20.15	16 12 26.8	120.90
11	0 10 12.90	5 52 26.4	138.58	11	1 44 25.32	16 24 32.2	120.27
12	0 12 4.87	6 6 17.9	138.45	12	1 46 30.88	16 36 33.8	119.60
13	0 13 57.01	6 20 8.6	138.28	13	1 48 36.83	16 48 31.4	118.92
14	0 15 49.33	6 33 58.3	138.13	14	1 50 43.17	17 0 24.9	118.22
15	0 17 41.84	6 47 47.1	137.97	15	1 52 49.91	17 12 14.2	117.52
16	0 19 34.54	7 1 34.9	137.77	16	1 54 57.05	17 23 59.3	116.80
17	0 21 27.43	7 15 21.5	137.60	17	1 57 4.59	17 35 40.1	116.07
18	0 23 20.52	7 29 7.1	137.40	18	1 59 12.54	17 47 16.5	115.30
19	0 25 13.81	7 42 51.5	137.18	19	2 1 20.90	17 58 48.3	114.57
20	0 27 7.32	7 56 34.6	136.97	20	2 3 29.68	18 10 15.7	113.77
21	0 29 1.03	8 10 16.4	136.75	21	2 5 38.87	18 21 38.3	112.98
22	0 30 54.97	8 23 56.9	136.50	22	2 7 48.48	18 32 56.2	112.18
23	49.13	8 37 35.9	136.27	23	2 9 58.52	18 44 9.3	111.37
	13.51	N. 8 51 13.5		24	2 12 8.99	N. 18 55 17.5	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
MONDAY 9.				WEDNESDAY 11.			
0	^h 2 ^m 12 ^s 8.99	N. 18° 55' 17".5	110.53	0	^h 4 ^m 5 ^s 25.56	N. 25° 43' 28".7	82
1	2 14 19.89	19 6 20.7	109.68	1	4 7 58.17	25 48 42.1	81
2	2 16 31.22	19 17 18.8	108.82	2	4 10 31.18	25 53 45.8	80
3	2 18 42.98	19 28 11.7	107.93	3	4 13 4.59	25 58 39.8	79
4	2 20 55.19	19 38 59.3	107.05	4	4 15 38.39	26 3 24.1	78
5	2 23 7.83	19 49 41.6	106.13	5	4 18 12.59	26 7 58.5	77
6	2 25 20.93	20 0 18.4	105.22	6	4 20 47.17	26 12 22.9	76
7	2 27 34.46	20 10 49.7	104.28	7	4 23 22.12	26 16 37.2	75
8	2 29 48.45	20 21 15.4	103.33	8	4 25 57.45	26 20 41.5	74
9	2 32 2.89	20 31 35.4	102.37	9	4 28 33.15	26 24 35.5	73
10	2 34 17.77	20 41 49.6	101.38	10	4 31 9.20	26 28 19.3	72
11	2 36 33.12	20 51 57.9	100.38	11	4 33 45.60	26 31 52.7	71
12	2 38 48.92	21 2 0.2	99.37	12	4 36 22.34	26 35 15.7	70
13	2 41 5.18	21 11 56.4	98.35	13	4 38 59.43	26 38 28.2	69
14	2 43 21.90	21 21 46.5	97.30	14	4 41 36.85	26 41 30.0	68
15	2 45 39.08	21 31 30.3	96.23	15	4 44 14.60	26 44 21.2	67
16	2 47 56.73	21 41 7.7	95.17	16	4 46 52.65	26 47 1.7	66
17	2 50 14.84	21 50 38.7	94.07	17	4 49 31.02	26 49 31.4	65
18	2 52 33.42	22 0 3.1	92.97	18	4 52 9.68	26 51 50.2	64
19	2 54 52.46	22 9 20.9	91.83	19	4 54 48.63	26 53 58.0	63
20	2 57 11.97	22 18 31.9	90.70	20	4 57 27.87	26 55 54.9	62
21	2 59 31.95	22 27 36.1	89.55	21	5 0 7.37	26 57 40.7	61
22	3 1 52.39	22 36 33.4	88.37	22	5 2 47.14	26 59 15.4	60
23	3 4 13.30	N. 22° 45' 23".6	87.18	23	5 5 27.17	N. 27° 0' 39".0	59
TUESDAY 10.				THURSDAY 12.			
0	3 6 34.67	N. 22° 54' 6".7	85.98	0	5 8 7.43	N. 27° 1' 51".3	10
1	3 8 56.52	23 2 42.6	84.75	1	5 10 47.93	27 2 52.3	9
2	3 11 18.83	23 11 11.1	83.52	2	5 13 28.67	27 3 42.0	8
3	3 13 41.62	23 19 32.2	82.27	3	5 16 9.61	27 4 20.3	7
4	3 16 4.87	23 27 45.8	81.00	4	5 18 50.77	27 4 47.2	6
5	3 18 28.59	23 35 51.8	79.70	5	5 21 32.13	27 5 2.7	5
6	3 20 52.77	23 43 50.0	78.40	6	5 24 13.67	27 5 6.6	4
7	3 23 17.42	23 51 40.4	77.10	7	5 26 55.39	27 4 58.9	3
8	3 25 42.53	23 59 23.0	75.75	8	5 29 37.28	27 4 39.7	2
9	3 28 8.10	24 6 57.5	74.40	9	5 32 19.32	27 4 8.8	1
10	3 30 34.14	24 14 23.9	73.03	10	5 35 1.50	27 3 26.3	0
11	3 33 0.63	24 21 42.1	71.65	11	5 37 43.84	27 2 32.2	14
12	3 35 27.57	24 28 52.0	70.25	12	5 40 26.30	27 1 26.3	12
13	3 37 54.98	24 35 53.5	68.85	13	5 43 8.88	27 0 8.6	14
14	3 40 22.83	24 42 46.6	67.40	14	5 45 51.56	26 58 39.2	18
15	3 42 51.14	24 49 31.0	65.95	15	5 48 34.34	26 56 58.1	16
16	3 45 19.89	24 56 6.7	64.50	16	5 51 17.19	26 55 5.1	28
17	3 47 49.09	25 2 33.7	63.02	17	5 54 0.13	26 53 0.3	22
18	3 50 18.72	25 8 51.8	61.52	18	5 56 43.12	26 50 43.7	20
19	3 52 48.79	25 15 0.9	60.02	19	5 59 26.17	26 48 1.1	18
20	3 55 19.30	25 21 1.0	58.48	20	6 2 9.26	26 45 31.1	16
21	3 57 50.23	25 26 51.9	56.93	21	6 4 52.38	26 42 4.4	14
22	4 0 21.59	25 32 33.5	55.38	22	6 7 35.52	26 39 2.4	12
23	4 2 53.36	25 38 5.8	53.82	23	6 10 18.67	26 36 3.6	10
24	4 5 25.56	N. 25° 43' 28".7		24	6 13 1.82	N. 26° 32' 3.8	8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
FRIDAY 13.				SUNDAY 15.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	6 13 1.82	N. 26 32 55.9	36.55	0	8 20 29.48	N. 20 8 40.2	120.60
1	6 15 44.95	26 29 16.6	38.53	1	8 23 2.04	19 56 36.6	121.97
2	6 18 28.06	26 25 25.4	40.48	2	8 25 34.25	19 44 24.8	123.33
3	6 21 11.14	26 21 22.5	42.45	3	8 28 6.10	19 32 4.8	124.68
4	6 23 54.17	26 17 7.8	44.40	4	8 30 37.59	19 19 36.7	126.00
5	6 26 37.15	26 12 41.4	46.35	5	8 33 8.72	19 7 0.7	127.30
6	6 29 20.07	26 8 3.3	48.30	6	8 35 39.49	18 54 16.9	128.57
7	6 32 2.91	26 3 13.5	50.27	7	8 38 9.90	18 41 25.5	129.85
8	6 34 45.67	25 58 11.9	52.18	8	8 40 39.95	18 28 26.4	131.08
9	6 37 28.33	25 52 58.8	54.12	9	8 43 9.63	18 15 19.9	132.30
10	6 40 10.89	25 47 34.1	56.05	10	8 45 38.95	18 2 6.1	133.48
11	6 42 53.34	25 41 57.8	57.98	11	8 48 7.91	17 48 45.2	134.68
12	6 45 35.66	25 36 9.9	59.90	12	8 50 36.49	17 35 17.1	135.83
13	6 48 17.84	25 30 10.5	61.80	13	8 53 4.71	17 21 42.1	136.97
14	6 50 59.89	25 23 59.7	63.70	14	8 55 32.56	17 8 0.3	138.08
15	6 53 41.78	25 17 37.5	65.58	15	8 58 0.05	16 54 11.8	139.17
16	6 56 23.51	25 11 4.0	67.47	16	9 0 27.18	16 40 16.8	140.25
17	6 59 5.08	25 4 19.2	69.33	17	9 2 53.94	16 26 15.3	141.28
18	7 1 46.46	24 57 23.2	71.20	18	9 5 20.33	16 12 7.6	142.33
19	7 4 27.67	24 50 16.0	73.03	19	9 7 46.36	15 57 53.6	143.32
20	7 7 8.68	24 42 57.8	74.90	20	9 10 12.03	15 43 33.7	144.32
21	7 9 49.49	24 35 28.4	76.72	21	9 12 37.34	15 29 7.8	145.28
22	7 12 30.08	24 27 48.1	78.53	22	9 15 2.29	15 14 36.1	146.22
23	7 15 10.46	N. 24 19 56.9	80.33	23	9 17 26.88	N. 14 59 58.8	147.13
SATURDAY 14.				MONDAY 16.			
0	7 17 50.62	N. 24 11 54.9	82.13	0	9 19 51.12	N. 14 45 16.0	148.03
1	7 20 30.53	24 3 42.1	83.90	1	9 22 15.00	14 30 27.8	148.90
2	7 23 10.20	23 55 18.7	85.67	2	9 24 38.52	14 15 34.4	149.77
3	7 25 49.62	23 46 44.7	87.43	3	9 27 1.69	14 0 35.8	150.60
4	7 28 28.78	23 38 0.1	89.17	4	9 29 24.52	13 45 32.2	151.40
5	7 31 7.68	23 29 5.1	90.88	5	9 31 47.00	13 30 23.8	152.20
6	7 33 46.32	23 19 59.8	92.60	6	9 34 9.13	13 15 10.6	152.95
7	7 36 24.67	23 10 44.2	94.30	7	9 36 30.92	12 59 52.9	153.72
8	7 39 2.74	23 1 18.4	95.98	8	9 38 52.38	12 44 30.6	154.43
9	7 41 40.53	22 51 42.5	97.65	9	9 41 13.49	12 29 4.0	155.13
10	7 44 18.03	22 41 56.6	99.30	10	9 43 34.28	12 13 33.2	155.82
11	7 46 55.22	22 32 0.8	100.93	11	9 45 54.73	11 57 58.3	156.48
12	7 49 32.11	22 21 55.2	102.55	12	9 48 14.85	11 42 19.4	157.12
13	7 52 8.68	22 11 39.9	104.17	13	9 50 34.65	11 26 36.7	157.75
14	7 54 44.95	22 1 14.9	105.73	14	9 52 54.13	11 10 50.2	158.33
15	7 57 20.89	21 50 40.5	107.32	15	9 55 13.29	10 55 0.2	158.90
16	7 59 56.52	21 39 56.6	108.85	16	9 57 32.14	10 39 6.8	159.47
17	8 2 31.82	21 29 3.5	110.40	17	9 59 50.67	10 23 10.0	159.98
18	8 5 6.72	21 18 1.1	111.90	18	10 2 8.89	10 7 10.1	160.52
19	8		113.40	19	10 4 26.81	9 51 7.0	160.98
20	8		14.88	20	10 6 44.43	9 35 1.1	161.47
21	8		33	21	10 9 1.75	9 18 52.3	161.92
22	8		7	22	10 11 18.78	9 2 40.8	162.33
23	8			23	10 13 35.52	8 46 26.8	162.75
24	8			24	10 15 51.96	N. 8 30 10.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	D
<i>TUESDAY 17.</i>				<i>THURSDAY 19.</i>			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	
0	10 15 51.96	N. 8 30 10.3	163.13	0	12 0 50.91	S. 4 41 23.9	1
1	10 18 8.13	8 13 51.5	163.48	1	12 2 58.75	4 57 23.6	1
2	10 20 24.02	7 57 30.6	163.83	2	12 5 6.55	5 13 20.5	1
3	10 22 39.64	7 41 7.6	164.17	3	12 7 14.28	5 29 14.6	1
4	10 24 54.98	7 24 42.6	164.47	4	12 9 21.96	5 45 5.7	1
5	10 27 10.06	7 8 15.8	164.75	5	12 11 29.59	6 0 53.8	1
6	10 29 24.89	6 51 47.3	165.03	6	12 13 37.18	6 16 38.7	1
7	10 31 39.45	6 35 17.1	165.27	7	12 15 44.72	6 32 20.5	1
8	10 33 53.76	6 18 45.5	165.48	8	12 17 52.23	6 47 59.0	1
9	10 36 7.82	6 2 12.6	165.70	9	12 19 59.71	7 3 34.1	1
10	10 38 21.64	5 45 38.4	165.90	10	12 22 7.15	7 19 5.8	1
11	10 40 35.22	5 29 3.0	166.05	11	12 24 14.57	7 34 34.0	1
12	10 42 48.56	5 12 26.7	166.22	12	12 26 21.96	7 49 58.6	1
13	10 45 1.68	4 55 49.4	166.33	13	12 28 29.34	8 5 19.5	1
14	10 47 14.57	4 39 11.4	166.45	14	12 30 36.71	8 20 36.8	1
15	10 49 27.24	4 22 32.7	166.55	15	12 32 44.07	8 35 50.2	1
16	10 51 39.69	4 5 53.4	166.62	16	12 34 51.42	8 50 59.7	1
17	10 53 51.93	3 49 13.7	166.68	17	12 36 58.77	9 6 5.2	1
18	10 56 3.96	3 32 33.6	166.72	18	12 39 6.12	9 21 6.8	1
19	10 58 15.79	3 15 53.3	166.73	19	12 41 13.48	9 36 4.2	1
20	11 0 27.41	2 59 12.9	166.73	20	12 43 20.84	9 50 57.5	1
21	11 2 38.84	2 42 32.5	166.70	21	12 45 28.22	10 5 46.5	1
22	11 4 50.08	2 25 52.3	166.68	22	12 47 35.61	10 20 31.2	1
23	11 7 1.14	N. 2 9 12.2	166.63	23	12 49 43.03	S. 10 35 11.5	1
<i>WEDNESDAY 18.</i>				<i>FRIDAY 20.</i>			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	
0	11 9 12.02	N. 1 52 32.4	166.55	0	12 51 50.46	S. 10 49 47.4	1
1	11 11 22.72	1 35 53.1	166.47	1	12 53 57.92	11 4 18.8	1
2	11 13 33.25	1 19 14.3	166.35	2	12 56 5.41	11 18 45.5	1
3	11 15 43.61	1 2 36.2	166.23	3	12 58 12.93	11 33 7.7	1
4	11 17 53.81	0 45 58.8	166.10	4	13 0 20.49	11 47 25.1	1
5	11 20 3.85	0 29 22.2	165.93	5	13 2 28.09	12 1 37.8	1
6	11 22 13.75	N. 0 12 46.6	165.77	6	13 4 35.73	12 15 45.6	1
7	11 24 23.49	S. 0 3 48.0	165.58	7	13 6 43.41	12 29 48.5	1
8	11 26 33.09	0 20 21.5	165.37	8	13 8 51.14	12 43 46.5	1
9	11 28 42.55	0 36 53.7	165.13	9	13 10 58.93	12 57 39.5	1
10	11 30 51.87	0 53 24.5	164.92	10	13 13 6.77	13 11 27.3	1
11	11 33 1.07	1 9 54.0	164.65	11	13 15 14.67	13 25 10.1	1
12	11 35 10.14	1 26 21.9	164.38	12	13 17 22.62	13 38 47.6	1
13	11 37 19.09	1 42 48.2	164.10	13	13 19 30.64	13 52 19.9	1
14	11 39 27.93	1 59 12.8	163.78	14	13 21 38.72	14 5 46.9	1
15	11 41 36.65	2 15 35.5	163.41	15	13 23 46.88	14 19 8.5	1
16	11 43 45.28	2 31 56.4	163.17	16	13 25 55.10	14 32 24.6	1
17	11 45 53.80	2 48 15.2	162.91	17	13 28 3.40	14 45 35.3	1
18	11 48 2.21	3 4 32.0	162.48	18	13 30 11.77	14 58 40.4	1
19	11 50 10.54	3 20 46.6	162.07	19	13 32 20.22	15 11 29.9	1
20	11 52 18.77	3 36 59.0	161.67	20	13 34 28.73	15 24 33.7	1
21	11 54 26.92	3 53 9.0	161.25	21	13 36 37.28	15 37 37.5	1
22	11 56 35.00	4 9 16.5	160.89	22	13 38 45.87	15 50 41.3	1
23	11 58 42.99	4 25 21.5	160.48	23	13 40 54.50	16 3 45.1	1
24	12 0 50.91	S. 4 41 23.9		24	13 43 03.17	16 16 48.9	1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 21.				MONDAY 23.			
	<i>h m s</i>	<i>S. ° ' "</i>	<i>"</i>		<i>h m s</i>	<i>S. ° ' "</i>	<i>"</i>
0	13 43 3 ⁷ 1	S. 16 15 11 ³	124 ¹²	0	15 28 14 ⁶ 4	S. 24 5 34 ⁶	68 ³⁰
1	13 45 12 ⁶ 7	16 27 36 ⁰	123 ¹⁰	1	15 30 28 ⁷ 4	24 12 24 ⁴	66 ⁹⁸
2	13 47 21 ⁷ 3	16 39 54 ⁶	122 ¹⁰	2	15 32 42 ⁹ 4	24 19 6 ³	65 ⁷⁰
3	13 49 30 ⁸ 8	16 52 7 ²	121 ¹⁰	3	15 34 57 ² 2	24 25 40 ⁵	64 ³⁸
4	13 51 40 ¹ 3	17 4 13 ⁸	120 ⁰⁷	4	15 37 11 ⁵ 8	24 32 6 ⁸	63 ⁰⁸
5	13 53 49 ⁴ 7	17 16 14 ²	119 ⁰³	5	15 39 26 ⁰ 4	24 38 25 ³	61 ⁷⁵
6	13 55 58 ⁹ 1	17 28 8 ⁴	118 ⁰⁰	6	15 41 40 ⁵ 7	24 44 35 ⁸	60 ⁴⁵
7	13 58 8 ⁴ 6	17 39 56 ⁴	116 ⁹⁵	7	15 43 55 ¹ 8	24 50 38 ⁵	59 ¹³
8	14 0 18 ¹ 0	17 51 38 ¹	115 ⁸⁸	8	15 46 9 ⁸ 7	24 56 33 ³	57 ⁸²
9	14 2 27 ⁸ 5	18 3 13 ⁴	114 ⁸³	9	15 48 24 ⁶ 3	25 2 20 ²	56 ⁴⁸
10	14 4 37 ⁷ 1	18 14 42 ⁴	113 ⁷⁷	10	15 50 39 ⁴ 7	25 7 59 ¹	55 ¹⁵
11	14 6 47 ⁶ 6	18 26 5 ⁰	112 ⁶⁸	11	15 52 54 ³ 8	25 13 30 ⁰	53 ⁸⁸
12	14 8 57 ⁷ 3	18 37 21 ¹	111 ⁶⁰	12	15 55 9 ³ 5	25 18 53 ⁰	52 ⁵⁰
13	14 11 7 ⁹ 1	18 48 30 ⁷	110 ⁵²	13	15 57 24 ³ 8	25 24 8 ⁰	51 ¹⁷
14	14 13 18 ¹ 9	18 59 33 ⁸	109 ⁴²	14	15 59 39 ⁴ 8	25 29 15 ⁰	49 ⁸²
15	14 15 28 ⁵ 9	19 10 30 ³	108 ³⁰	15	16 1 54 ⁶ 3	25 34 13 ⁹	48 ⁵⁰
16	14 17 39 ⁰ 9	19 21 20 ¹	107 ¹⁸	16	16 4 9 ⁸ 4	25 39 4 ⁹	47 ¹³
17	14 19 49 ⁷ 1	19 32 3 ²	106 ⁰⁸	17	16 6 25 ¹ 1	25 43 47 ⁷	45 ⁸⁰
18	14 22 0 ⁴ 4	19 42 39 ⁷	104 ⁹³	18	16 8 40 ⁴ 2	25 48 22 ⁵	44 ⁴⁷
19	14 24 11 ² 9	19 53 9 ³	103 ⁸⁰	19	16 10 55 ⁷ 7	25 52 49 ³	43 ¹⁰
20	14 26 22 ² 5	20 3 32 ¹	102 ⁶⁷	20	16 13 11 ¹ 7	25 57 7 ⁹	41 ⁷⁵
21	14 28 33 ³ 2	20 13 48 ¹	101 ⁵²	21	16 15 26 ⁶ 1	26 1 18 ⁴	40 ⁴⁰
22	14 30 44 ⁵ 0	20 23 57 ²	100 ³⁵	22	16 17 42 ⁰ 9	26 5 20 ⁸	39 ⁰⁵
23	14 32 55 ⁸ 0	S. 20 33 59 ³	99 ²⁰	23	16 19 57 ⁶ 0	S. 26 9 15 ¹	37 ⁷⁰
SUNDAY 22.				TUESDAY 24.			
	<i>h m s</i>	<i>S. ° ' "</i>	<i>"</i>		<i>h m s</i>	<i>S. ° ' "</i>	<i>"</i>
0	14 35 7 ² 2	S. 20 43 54 ⁵	98 ⁰²	0	16 22 13 ¹ 4	S. 26 13 1 ³	36 ³³
1	14 37 18 ⁷ 5	20 53 42 ⁶	96 ⁸⁵	1	16 24 28 ⁷ 1	26 16 39 ³	34 ⁹⁸
2	14 39 30 ⁴ 0	21 3 23 ⁷	95 ⁶⁷	2	16 26 44 ³ 0	26 20 9 ²	33 ⁶²
3	14 41 42 ¹ 6	21 12 57 ⁷	94 ⁴⁸	3	16 28 59 ⁹ 1	26 23 30 ⁹	32 ²⁵
4	14 43 54 ⁰ 4	21 22 24 ⁶	93 ²⁸	4	16 31 15 ⁵ 4	26 26 44 ⁴	30 ⁹⁰
5	14 46 6 ⁰ 3	21 31 44 ³	92 ⁰⁸	5	16 33 31 ¹ 8	26 29 49 ⁸	29 ⁵⁵
6	14 48 18 ¹ 3	21 40 56 ⁸	90 ⁸⁸	6	16 35 46 ⁸ 4	26 32 47 ¹	28 ¹⁸
7	14 50 30 ³ 5	21 50 2 ¹	89 ⁶⁷	7	16 38 2 ⁴ 9	26 35 36 ²	26 ⁸²
8	14 52 42 ⁶ 8	21 59 0 ¹	88 ⁴⁵	8	16 40 18 ¹ 5	26 38 17 ¹	25 ⁴⁵
9	14 54 55 ¹ 2	22 7 50 ⁸	87 ²³	9	16 42 33 ⁸ 1	26 40 49 ⁸	24 ¹⁰
10	14 57 7 ⁶ 8	22 16 34 ²	86 ⁰²	10	16 44 49 ⁴ 6	26 43 14 ⁴	22 ⁷⁵
11	14 59 20 ³ 4	22 25 10 ³	84 ⁷⁷	11	16 47 5 ¹ 0	26 45 30 ⁹	21 ³⁷
12	15 1 33 ¹ 2	22 33 38 ⁹	83 ⁵³	12	16 49 20 ⁷ 2	26 47 39 ¹	20 ⁰²
13	15 3 46 ⁰ 1	22 42 0 ¹	82 ³⁰	13	16 51 36 ³ 3	26 49 39 ²	18 ⁶⁷
14	15 5 59 ⁰ 0	22 50 13 ⁹	81 ⁰³	14	16 53 51 ⁹ 2	26 51 31 ²	17 ³⁰
15	15 8 12 ¹ 0	22 58 20 ¹	79 ⁸⁰	15	16 56 7 ⁴ 9	26 53 15 ⁰	15 ⁹⁵
16	15 10 25 ³ 1	23 6 18 ⁹	78 ⁵³	16	16 58 23 ⁰ 2	26 54 50 ⁷	14 ⁵⁸
17	15 12 38 ⁶ 2	23 14 10 ¹	77 ²⁷	17	17 0 38 ⁵ 3	26 56 18 ²	13 ²³
18 2 ⁰ 4	23 21 53 ⁷	76 ⁰⁰	18	17 2 53 ⁹ 9	26 57 37 ⁶	11 ⁸⁷
19	56	23 29 29 ⁷	74 ⁷²	19	17 5 9 ⁴ 2	26 58 48 ⁸	10 ⁵²
20		23 36 58 ⁰	73 ⁴⁵	20	17 7 24 ⁸ 0	26 59 51 ⁹	9 ¹⁷
21		23 44 18 ⁷	72 ¹⁷	21	17 9 40 ¹ 4	27 0 46 ⁹	7 ⁸²
22		51 31 ⁷	70 ⁸⁸	22	17 11 55 ⁴ 2	27 1 33 ⁸	6 ⁴⁷
23		58 37 ⁰	69 ⁶⁰	23	17 14 10 ⁶ 5	27 2 12 ⁶	5 ¹²
24		34 ⁶		24	17 16 25 ⁸ 1	S. 27 2 43 ³	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 25.				FRIDAY 27.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	17 16 25.81	S. 27 2 43.3	3.77	0	19 2 13.16	S. 24 54 54.9	5.8
1	17 18 40.92	27 3 5.9	2.42	1	19 4 21.22	24 49 15.7	5.8
2	17 20 55.95	27 3 20.4	1.08	2	19 6 29.07	24 43 29.8	5.8
3	17 23 10.92	27 3 26.9	0.27	3	19 8 36.71	24 37 37.1	5.8
4	17 25 25.81	27 3 25.3	1.60	4	19 10 44.13	24 31 37.7	5.8
5	17 27 40.62	27 3 15.7	2.93	5	19 12 51.35	24 25 31.7	5.8
6	17 29 55.35	27 2 58.1	4.28	6	19 14 58.35	24 19 19.1	5.8
7	17 32 9.99	27 2 32.4	5.60	7	19 17 5.13	24 12 59.9	5.8
8	17 34 24.54	27 1 58.8	6.93	8	19 19 11.69	24 6 34.2	5.8
9	17 36 39.00	27 1 17.2	8.25	9	19 21 18.03	24 0 2.0	5.8
10	17 38 53.35	27 0 27.7	9.57	10	19 23 24.16	23 53 23.4	5.8
11	17 41 7.61	26 59 30.3	10.90	11	19 25 30.07	23 46 38.4	5.8
12	17 43 21.76	26 58 24.9	12.20	12	19 27 35.75	23 39 47.0	5.8
13	17 45 35.80	26 57 11.7	13.53	13	19 29 41.22	23 32 49.3	5.8
14	17 47 49.73	26 55 50.5	14.82	14	19 31 46.46	23 25 45.4	5.8
15	17 50 3.54	26 54 21.6	16.13	15	19 33 51.48	23 18 35.2	5.8
16	17 52 17.24	26 52 44.8	17.43	16	19 35 56.27	23 11 18.9	5.8
17	17 54 30.80	26 51 0.2	18.73	17	19 38 0.84	23 3 56.4	5.8
18	17 56 44.25	26 49 7.8	20.03	18	19 40 5.18	22 56 27.8	5.8
19	17 58 57.56	26 47 7.6	21.30	19	19 42 9.31	22 48 53.1	5.8
20	18 1 10.73	26 44 59.8	22.60	20	19 44 13.20	22 41 12.5	5.8
21	18 3 23.77	26 42 44.2	23.88	21	19 46 16.87	22 33 25.8	5.8
22	18 5 36.67	26 40 20.9	25.15	22	19 48 20.32	22 25 33.3	5.8
23	18 7 49.42	S. 26 37 50.0	26.43	23	19 50 23.54	S. 22 17 34.9	5.8
THURSDAY 26.				SATURDAY 28.			
0	18 10 2.02	S. 26 35 11.4	27.70	0	19 52 26.53	S. 22 9 30.6	5.8
1	18 12 14.48	26 32 25.2	28.95	1	19 54 29.30	22 1 20.5	5.8
2	18 14 26.78	26 29 31.5	30.25	2	19 56 31.85	21 53 4.7	5.8
3	18 16 38.93	26 26 30.2	31.48	3	19 58 34.17	21 44 43.2	5.8
4	18 18 50.92	26 23 21.3	32.72	4	20 0 36.27	21 36 16.1	5.8
5	18 21 2.74	26 20 5.0	33.95	5	20 2 38.15	21 27 43.3	5.8
6	18 23 14.40	26 16 41.3	35.20	6	20 4 39.80	21 19 5.0	5.8
7	18 25 25.90	26 13 10.1	36.43	7	20 6 41.23	21 10 21.2	5.8
8	18 27 37.22	26 9 31.5	37.67	8	20 8 42.43	21 1 31.8	5.8
9	18 29 48.36	26 5 45.5	38.88	9	20 10 43.41	20 52 37.1	5.8
10	18 31 59.34	26 1 52.2	40.10	10	20 12 44.18	20 43 37.0	5.8
11	18 34 10.13	25 57 51.6	41.32	11	20 14 44.72	20 34 31.5	5.8
12	18 36 20.74	25 53 43.7	42.52	12	20 16 45.04	20 25 20.8	5.8
13	18 38 31.17	25 49 28.6	43.72	13	20 18 45.14	20 16 4.8	5.8
14	18 40 41.42	25 45 6.3	44.92	14	20 20 45.03	20 6 43.7	5.8
15	18 42 51.47	25 40 36.8	46.10	15	20 22 44.70	19 57 17.4	5.8
16	18 45 1.34	25 36 0.2	47.28	16	20 24 44.13	19 47 46.0	5.8
17	18 47 11.01	25 31 16.5	48.45	17	20 26 43.33	19 38 9.5	5.8
18	18 49 20.49	25 26 25.8	49.63	18	20 28 42.33	19 28 2.0	5.8
19	18 51 29.77	25 21 28.0	50.80	19	20 30 41.13	19 18 14.5	5.8
20	18 53 38.85	25 16 23.2	51.95	20	20 32 39.73	19 8 27.0	5.8
21	18 55 47.74	25 11 11.5	53.12	21	20 34 38.13	18 58 39.5	5.8
22	18 57 56.42	25 5 52.8	54.25	22	20 36 36.33	18 48 52.0	5.8
23	19 0 4.89	25 0 27.3	55.40	23	20 38 34.33	18 39 4.5	5.8
24	19 2 13.16	S. 24 54 54.9		24	20 40 32.13	18 30 17.0	5.8

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SUNDAY 29.				TUESDAY 31.		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0 40 32.13	S. 18 28 36.6	102.55	0	22 11 24.39	S. 9 2 48.4	130.77
0 42 29.70	18 18 21.3	103.30	1	22 13 14.84	8 49 43.8	131.18
0 44 27.06	18 8 1.5	104.08	2	22 15 5.21	8 36 36.7	131.55
0 46 24.23	17 57 37.0	104.85	3	22 16 55.50	8 23 27.4	131.93
0 48 21.20	17 47 7.9	105.58	4	22 18 45.72	8 10 15.8	132.30
0 50 17.97	17 36 34.4	106.32	5	22 20 35.87	7 57 2.0	132.67
0 52 14.54	17 25 56.5	107.07	6	22 22 25.96	7 43 46.0	133.03
0 54 10.92	17 15 14.1	107.80	7	22 24 15.98	7 30 27.8	133.37
0 56 7.12	17 4 27.3	108.50	8	22 26 5.94	7 17 7.6	133.72
0 58 3.12	16 53 36.3	109.22	9	22 27 55.85	7 3 45.3	134.03
0 59 58.93	16 42 41.0	109.92	10	22 29 45.71	6 50 21.1	134.37
1 1 54.56	16 31 41.5	110.62	11	22 31 35.51	6 36 54.9	134.68
1 3 50.00	16 20 37.8	111.30	12	22 33 25.27	6 23 26.8	134.98
1 5 45.26	16 9 30.0	111.98	13	22 35 14.99	6 9 56.9	135.30
1 7 40.35	15 58 18.1	112.63	14	22 37 4.67	5 56 25.1	135.57
1 9 35.25	15 47 2.3	113.32	15	22 38 54.31	5 42 51.7	135.87
1 11 29.98	15 35 42.4	113.97	16	22 40 43.92	5 29 16.5	136.13
1 13 24.54	15 24 18.6	114.62	17	22 42 33.51	5 15 39.7	136.42
1 15 18.93	15 12 50.9	115.25	18	22 44 23.07	5 2 1.2	136.65
1 17 13.15	15 1 19.4	115.88	19	22 46 12.61	4 48 21.3	136.92
1 19 7.21	14 49 44.1	116.52	20	22 48 2.13	4 34 39.8	137.15
1 21 1.10	14 38 5.0	117.12	21	22 49 51.64	4 20 56.9	137.40
1 22 54.83	14 26 22.3	117.73	22	22 51 41.15	4 7 12.5	137.60
1 24 48.40	S. 14 14 35.9	118.33	23	22 53 30.65	S. 3 53 26.9	137.83
MONDAY 30.				WEDNESDAY, SEPT. 1.		
1 26 41.82	S. 14 2 45.9	118.93	0	22 55 20.14	S. 3 39 39.9	
1 28 35.09	13 50 52.3	119.50				
1 30 28.20	13 38 55.3	120.10				
1 32 21.17	13 26 54.7	120.65				
1 34 13.99	13 14 50.8	121.22				
1 36 6.67	13 2 43.5	121.77				
1 37 59.22	12 50 32.9	122.32				
1 39 51.62	12 38 19.0	122.85				
1 41 43.89	12 26 1.9	123.38				
1 43 36.03	12 13 41.6	123.90				
1 45 28.05	12 1 18.2	124.42				
1 47 19.93	11 48 51.7	124.93				
1 49 11.70	11 36 22.1	125.42				
1 51 3.34	11 23 49.6	125.92				
1 52 54.87	11 11 14.1	126.38				
1 54 46.28	10 58 35.8	126.87				
1 56 37.58	10 45 54.6	127.33				
1 58 28.78	10 33 10.6	127.78				
2 0 19.86	10 20 23.9	128.25				
	10 7 34.4	128.67				
	9 54 42.4	129.12				
	41 47.7	129.55				
	28 50.4	129.97				
	50.6	130.37				
	4					

PHASES OF THE MOON.

○ Full Moon	- -	^d ^h ^m
☾ Last Quarter	- -	9 18 18.7
● New Moon	- -	16 9 32.9
☾ First Quarter	- -	23 9 9.9
○ Full Moon	- -	31 13 33.8

☾ Perigee	- - - - -	^d ^h
☾ Apogee	- - - - -	15 13
		28 1

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]
1	Mars W.	80 30 38	3274	81 55 20	3273	83 20 3	3272	84 44 47
	Antares W.	51 31 6	3065	52 59 58	3064	54 28 52	3063	55 57 47
	Jupiter W.	48 58 24	3087	50 26 49	3086	51 55 16	3083	53 23 46
	Saturn W.	31 53 57	3096	33 22 12	3091	34 50 33	3087	36 18 59
	α Pegasi E.	55 7 35	3324	53 43 51	3332	52 20 17	3342	50 56 54
	α Arietis E.	96 29 37	3081	95 1 4	3078	93 32 28	3077	92 3 51
2	Mars W.	91 49 0	3260	93 13 58	3258	94 38 59	3253	96 4 3
	Antares W.	63 22 56	3051	64 52 6	3048	66 21 19	3046	67 50 35
	Jupiter W.	60 47 2	3068	62 15 51	3064	63 44 44	3061	65 13 41
	Saturn W.	43 42 25	3062	45 11 21	3058	46 40 22	3055	48 9 27
	α Pegasi E.	44 3 24	3423	42 41 33	3442	41 20 4	3463	39 58 58
	α Arietis E.	84 40 11	3065	83 11 19	3063	81 42 24	3061	80 13 26
3	Mars W.	103 10 15	3237	104 35 41	3233	106 1 11	3229	107 26 46
	Antares W.	75 17 54	3026	76 47 35	3022	78 17 20	3018	79 47 10
	Jupiter W.	72 39 27	3040	74 8 50	3036	75 38 18	3033	77 7 50
	Saturn W.	55 36 7	3031	57 5 42	3026	58 35 23	3021	60 5 10
	α Arietis E.	72 47 43	3042	71 18 22	3039	69 48 57	3035	68 19 28
	Venus E.	122 53 30	3456	121 32 17	3450	120 10 57	3446	118 49 32
4	Jupiter W.	84 36 56	3003	86 7 3	2999	87 37 17	2994	89 7 37
	Saturn W.	67 35 32	2992	69 5 55	2986	70 36 25	2980	72 7 3
	α Arietis E.	60 50 46	3010	59 20 46	3006	57 50 40	3001	56 20 28
	Aldebaran E.	93 7 16	3059	91 38 16	3054	90 9 10	3048	88 39 57
	Venus E.	112 0 46	3409	110 38 40	3403	109 16 27	3397	107 54 7
5	Jupiter W.	96 41 2	2959	98 12 6	2953	99 43 18	2946	101 14 39
	Saturn W.	79 42 1	2943	81 13 25	2937	82 44 57	2930	84 16 38
	α Arietis E.	48 47 55	2970	47 17 5	2965	45 46 8	2959	44 15 4
	Aldebaran E.	81 12 7	3014	79 42 12	3008	78 12 9	3002	76 41 58
	Venus E.	101 0 30	3354	99 37 21	3347	98 14 4	3339	96 50 37
6	Saturn W.	91 57 26	2884	93 30 5	2875	95 2 56	2866	96 35 58
	α Arietis E.	36 38 0	2926	35 6 14	2921	33 34 22	2916	32 2 23
	Aldebaran E.	69 9 4	2962	67 38 4	2956	66 6 56	2949	64 35 39
	Venus E.	89 51 2	3288	88 26 36	3278	87 1 59	3269	85 37 11
	SUN E.	134 37 53	3232	133 12 22	3224	131 46 42	3214	130 20 49
7	α Aquilæ W.	71 57 0	3507	73 17 16	3485	74 37 57	3464	75 59 1
	Fomalhaut W.	46 47 54	3530	48 7 45	3485	49 28 26	3442	50 49 55
	Aldebaran E.	56 57 5	2908	55 24 56	2902	53 52 39	2894	52 20 13
	Venus E.	78 30 13	3206	77 4 11	3196	75 37 57	3183	74 11 28
	SUN E.	123 8 26	3152	121 41 19	3141	120 13 59	3129	118 46 24
8	α Aquilæ W.	82 49 48	3354	84 12 57	3337	85 36 26	3322	87 0 12
	Fomalhaut W.	57 47 54	3232	59 13 25	3203	60 39 31	3175	62 6 10
	Aldebaran E.	44 36 11	2862	43 3 3	2859	41 29 51	2856	39 56 35
	Venus E.	66 55 29	3110	65 27 32	3097	63		
	SUN E.	111 24 47	3053	109 55 40	3040	107		
9	α Aquilæ W.	94 3 8	3242	95 28 27	3233			
	Fomalhaut W.	69 27 20	3025	70 57 2	3002			
	α Pegasi W.	46 51 1	2928	48 22 44	2898			

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]	
1	Mars W.	86 9 34	3270	87 34 22	3267	88 59 12	3265	90 24 5	3263
	Antares W.	57 26 44	3059	58 55 44	3058	60 24 45	3056	61 53 49	3053
	Jupiter W.	54 52 18	3078	56 20 54	3075	57 49 34	3073	59 18 16	3070
	Saturn W.	37 47 31	3078	39 16 7	3074	40 44 48	3070	42 13 34	3066
	α Pegasi E.	49 33 44	3364	48 10 46	3376	46 48 2	3390	45 25 34	3406
	α Arietis E.	90 35 12	3074	89 6 30	3072	87 37 46	3070	86 9 0	3068
2	Mars W.	97 29 10	3250	98 54 20	3247	100 19 34	3242	101 44 53	3240
	Antares W.	69 19 55	3039	70 49 19	3037	72 18 46	3033	73 48 18	3030
	Jupiter W.	66 42 41	3055	68 11 46	3051	69 40 55	3048	71 10 9	3044
	Saturn W.	49 38 37	3047	51 7 52	3043	52 37 12	3039	54 6 37	3035
	α Pegasi E.	38 38 20	3514	37 18 11	3544	35 58 35	3578	34 39 37	3618
	α Arietis E.	78 44 25	3056	77 15 21	3052	75 46 12	3048	74 16 59	3046
3	Mars W.	108 52 26	3220	110 18 11	3216	111 44 1	3212	113 9 56	3207
	Antares W.	81 17 6	3010	82 47 6	3005	84 17 13	3001	85 47 25	2996
	Jupiter W.	78 37 28	3023	80 7 12	3019	81 37 1	3014	83 6 56	3010
	Saturn W.	61 35 2	3012	63 5 0	3007	64 35 4	3002	66 5 15	2997
	α Arietis E.	66 49 54	3026	65 20 14	3023	63 50 30	3019	62 20 41	3014
	Venus E.	117 28 0	3433	116 6 21	3428	114 44 36	3422	113 22 44	3416
4	Jupiter W.	90 38 3	2983	92 8 37	2978	93 39 18	2972	95 10 6	2966
	Saturn W.	73 37 47	2969	75 8 39	2963	76 39 38	2956	78 10 46	2950
	α Arietis E.	54 50 10	2991	53 19 46	2985	51 49 15	2981	50 18 39	2975
	Aldebaran E.	87 10 37	3037	85 41 10	3031	84 11 36	3026	82 41 55	3020
	Venus E.	106 31 40	3383	105 9 4	3377	103 46 21	3369	102 23 29	3363
5	Jupiter W.	102 46 9	2932	104 17 47	2925	105 49 34	2917	107 21 31	2909
	Saturn W.	85 48 28	2915	87 20 28	2908	88 52 37	2900	90 24 56	2891
	α Arietis E.	42 43 53	2948	41 12 35	2943	39 41 10	2938	38 9 39	2931
	Aldebaran E.	75 11 39	2989	73 41 13	2982	72 10 38	2976	70 39 55	2970
	Venus E.	95 27 2	3323	94 3 17	3314	92 39 22	3306	91 15 17	3297
6	Saturn W.	98 9 11	2849	99 42 35	2839	101 16 12	2830	102 50 1	2820
	α Arietis E.	30 30 20	2907	28 58 10	2905	27 25 57	2902	25 53 41	2901
	Aldebaran E.	63 4 14	2935	61 32 40	2928	60 0 57	2922	58 29 6	2914
	Venus E.	84 12 12	3248	82 47 0	3239	81 21 37	3228	79 56 1	3218
	SUN E.	128 54 45	3194	127 28 29	3184	126 2 1	3173	124 35 20	3163
7	α Aquilæ W.	77 20 27	3424	78 42 16	3406	80 4 26	3387	81 26 57	3370
	Fomalhaut W.	52 12 8	3365	53 35 5	3329	54 58 43	3295	56 23 0	3264
	Aldebaran E.	50 47 40	2882	49 14 58	2877	47 42 9	2871	46 9 13	2866
	Venus E.	72 44 46	3161	71 17 49	3148	69 50 37	3136	68 23 11	3123
	SUN E.	117 18 35	3105	115 50 31	3092	114 22 12	3079	112 53 37	3067
8	α Aquilæ W.	88 24 16	3293	89 48 36	3279	91 13 12	3266	92 38 3	3254
	Fomalhaut W.	63 33 23	3122	65 1 6	3096	66 29 21	3071	67 58 6	3047
	Aldebaran E.	38 23 17	2854	36 49 59	2856	35 16 43	2859	33 43 31	2864
	Venus E.	61 2 3	3057	59 33 1	3043	58 3 41	3029	56 34 4	3015
	SUN E.	105 26 39	2998	103 56 23	2984	102 25 50	2969	100 54 58	2954
		99 45 36	3204	101 11 40	3197	102 37 53	3190	104 4 14	3185
		28 54	2939	77 0 24	2919	78 32 19	2898	80 4 40	2880
		36	2815	54 35 44	2790	56 10 25	2765	57 45 39	2741

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .	P.
		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u	
9	Venus E.	55 4 10	3001	53 33 58	2986	52 3 28	2972	50 32 40	29
	SUN E.	99 23 47	2939	97 52 18	2924	96 20 29	2908	94 48 20	28
10	Fomalhaut W.	81 37 25	2861	83 10 34	2843	84 44 6	2825	86 18 1	28
	α Pegasi W.	59 21 25	2718	60 57 41	2695	62 34 28	2672	64 11 45	26
	α Arietis W.	15 44 1	2679	17 21 9	2631	18 59 22	2591	20 38 30	23
	Venus E.	42 54 5	2895	41 21 27	2871	39 48 31	2857	38 15 17	28
	SUN E.	87 2 28	2811	85 28 15	2795	83 53 40	2777	82 18 42	27
11	Fomalhaut W.	94 12 56	2732	95 48 54	2718	97 25 10	2705	99 1 43	26
	α Pegasi W.	72 25 15	2549	74 5 20	2531	75 45 50	2512	77 26 46	24
	α Arietis W.	29 4 39	2425	30 47 38	2404	32 31 7	2384	34 15 5	23
	Venus E.	30 24 56	2785	28 50 8	2776	27 15 8	2769	25 39 59	27
	SUN E.	74 18 23	2676	72 41 11	2660	71 3 37	2643	69 25 40	26
12	α Pegasi W.	85 57 33	2411	87 40 52	2396	89 24 32	2382	91 8 33	23
	α Arietis W.	43 1 49	2273	44 48 28	2257	46 35 31	2241	48 22 57	22
	Aldebaran W.	14 27 49	3559	15 47 8	3281	17 11 42	3071	18 40 27	29
	SUN E.	61 10 18	2545	59 30 7	2529	57 49 34	2514	56 8 40	24
13	α Arietis W.	57 25 48	2154	59 15 25	2141	61 5 22	2128	62 55 38	21
	Aldebaran W.	26 43 55	2471	28 25 49	2422	30 8 52	2378	31 52 58	22
	SUN E.	47 39 1	2429	45 56 7	2415	44 12 54	2403	42 29 24	23
14	α Arietis W.	72 11 9	2066	74 3 1	2058	75 55 5	2051	77 47 20	20
	Aldebaran W.	40 45 15	2208	42 33 31	2189	44 22 15	2172	46 11 25	22
	SUN E.	33 47 56	2342	32 2 57	2333	30 17 46	2326	28 32 25	22
18	SUN W.	22 30 55	2446	24 13 25	2460	25 55 34	2475	27 37 23	24
	Mars E.	60 24 51	2335	58 39 43	2351	56 54 57	2366	55 10 33	23
	Jupiter E.	82 40 28	2171	80 51 17	2185	79 2 27	2200	77 13 59	21
19	SUN W.	36 0 51	2574	37 40 21	2592	39 19 27	2611	40 58 7	20
	Mars E.	46 34 34	2470	44 52 39	2490	43 11 11	2508	41 30 9	20
	Antares E.	65 16 35	2268	63 29 48	2285	61 43 26	2302	59 57 30	20
	Jupiter E.	68 17 35	2298	66 31 33	2316	64 45 57	2334	63 0 47	20
	Saturn E.	84 36 44	2275	82 50 8	2293	81 3 58	2310	79 18 13	20
20	SUN W.	49 5 0	2727	50 41 4	2747	52 16 42	2767	53 51 53	20
	Mars E.	33 12 3	2633	31 33 53	2656	29 56 14	2678	28 19 5	20
	Antares E.	51 14 17	2410	49 30 57	2429	47 48 4	2448	46 5 37	20
	Jupiter E.	54 21 43	2448	52 39 17	2468	50 57 19	2489	49 15 50	20
	Saturn E.	70 36 2	2420	68 52 56	2439	67 10 17	2458	65 28 4	20
21	SUN W.	61 41 20	2887	63 13 56	2906	64 46 7	2926	66 37 20	20
	Antares E.	37 39 54	2559	36 0 3	2577	34 20 37	2595	32 32 30	20
	Jupiter E.	40 55 28	2612	39 16 49	2633	37 38 39	2653	36 10 30	20
	Saturn E.	57 3 45	2572	55 24 12	2592	53 45 6	2611	51 57 30	20
	α Aquilæ E.	92 21 50	3186	90 55 24	3203	89 29 18	3227	88 10 30	20
22	SUN W.	73 50 43	3039	75 20 7	3066	76 39 7	3096	78 10 30	20
	Spica ♀ W.	21 29 43	2741	23 5 28	2753	24 30	2768	26 10 30	20
	Antares E.	24 32 29	2700	22 55 49	2717	21 30	2734	23 10 30	20
	Saturn E.	43 59 29	2723	42 23 20	2742	40 30	2762	42 10 30	20
	α Aquilæ E.	81 0 52	3347	79 37 35	3371	78 30	3397	80 10 30	20

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
9	Venus E.	49 1 34	2943	47 30 9	2928	45 58 26	2914	44 26 25	2899
	SUN E.	93 15 51	2876	91 43 1	2860	90 9 51	2844	88 36 20	2828
10	Fomalhaut W.	87 52 18	2792	89 26 57	2776	91 1 56	2760	92 37 16	2745
	α Pegasi W.	65 49 30	2629	67 27 45	2609	69 6 28	2589	70 45 38	2569
	α Arietis W.	22 18 25	2525	23 59 3	2497	25 40 20	2472	27 22 13	2448
	Venus E.	36 41 46	2830	35 7 57	2818	33 33 52	2805	31 59 31	2795
	SUN E.	80 43 23	2744	79 7 42	2727	77 31 38	2710	75 55 12	2693
11	Fomalhaut W.	100 38 31	2682	102 15 35	2672	103 52 53	2662	105 30 24	2654
	α Pegasi W.	79 8 7	2477	80 49 53	2460	82 32 3	2443	84 14 36	2427
	α Arietis W.	35 59 32	2344	37 44 27	2326	39 29 48	2308	41 15 36	2291
	Venus E.	24 4 43	2761	22 29 24	2761	20 54 5	2767	19 18 54	2780
	SUN E.	67 47 21	2610	66 8 39	2593	64 29 34	2577	62 50 7	2561
12	α Pegasi W.	92 52 54	2354	94 37 35	2341	96 22 34	2329	98 7 51	2318
	α Arietis W.	50 10 47	2210	51 59 0	2196	53 47 34	2181	55 36 31	2167
	Aldebaran W.	20 12 33	2783	21 47 23	2683	23 24 26	2599	25 3 23	2530
	SUN E.	54 27 25	2484	52 45 49	2470	51 3 53	2455	49 21 37	2441
13	α Arietis W.	64 46 11	2105	66 37 2	2095	68 28 9	2083	70 19 32	2075
	Aldebaran W.	33 37 59	2308	35 23 47	2278	37 10 19	2252	38 57 29	2228
	SUN E.	40 45 38	2380	39 1 35	2369	37 17 16	2360	35 32 43	2350
14	α Arietis W.	79 39 47	2037	81 32 23	2032	83 25 7	2027	85 17 59	2023
	Aldebaran W.	48 0 58	2143	49 50 51	2132	51 41 2	2122	53 31 28	2111
	SUN E.	26 46 54	2313	25 1 14	2309	23 15 28	2304	21 29 35	2302
18	SUN W.	29 18 50	2506	30 59 55	2522	32 40 38	2540	34 20 56	2556
	Mars E.	53 26 32	2398	51 42 55	2416	49 59 43	2434	48 16 56	2451
	Jupiter E.	75 25 54	2231	73 38 13	2247	71 50 55	2264	70 4 3	2281
19	SUN W.	42 36 21	2649	44 14 10	2668	45 51 33	2688	47 28 29	2707
	Mars E.	39 49 35	2548	38 9 29	2569	36 29 51	2590	34 50 42	2612
	Antares E.	58 11 59	2337	56 26 54	2355	54 42 15	2374	52 58 3	2392
	Jupiter E.	61 16 3	2371	59 31 47	2390	57 47 58	2410	56 4 37	2429
	Saturn E.	77 32 54	2346	75 48 1	2364	74 3 35	2382	72 19 35	2401
20	SUN W.	55 26 38	2807	57 0 57	2827	58 34 50	2846	60 8 18	2866
	Mars E.	26 42 28	2726	25 6 22	2752	23 30 51	2778	21 55 54	2805
	Antares E.	44 23 36	2485	42 42 2	2504	41 0 54	2522	39 20 11	2540
	Jupiter E.	47 34 49	2529	45 54 16	2549	44 14 11	2570	42 34 35	2591
	Saturn E.	63 46 19	2496	62 5 0	2515	60 24 8	2535	58 43 43	2554
21	SUN W.	67 49 15	2965	69 20 12	2983	70 50 46	3002	72 20 56	3021
	Antares E.	31 2 58	2632	29 24 46	2649	27 46 57	2666	26 9 32	2683
	Jupiter E.	34 23 47	2699	32 47 6	2721	31 10 54	2745	29 35 14	2768
	Saturn E.	50 28 12	2649	48 50 23	2668	47 13 0	2687	45 36 2	2705
			3261	85 13 17	3281	83 48 43	3303	82 24 35	3325
			10	81 14 7	3126	82 41 45	3143	84 9 3	3158
				29 25 47	2804	31 0 10	2817	32 34 16	2830
				16 32 48	2781	14 57 55	2795	13 23 21	2811
				2 49	2815	34 28 41	2834	32 54 57	2853
				9 1	3472	72 48 5	3498	71 27 39	3525

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]
23	SUN W.	85 36 2	3174	87 2 42	3189	88 29 4	3204	89 55 8
	Spica π W.	34 8 5	2842	35 41 38	2856	37 14 54	2868	38 47 54
	Saturn E.	31 21 38	2871	29 48 42	2891	28 16 12	2910	26 44 6
	α Aquilæ E.	70 7 43	3555	68 48 19	3585	67 29 28	3615	66 11 10
	Fomalhaut E.	93 41 37	3188	92 15 13	3202	90 49 6	3214	89 23 13
24	SUN W.	97 1 22	3284	98 25 52	3297	99 50 7	3307	101 14 10
	Spica π W.	46 29 6	2937	48 0 38	2947	49 31 57	2957	51 3 3
	Fomalhaut E.	82 17 54	3297	80 53 39	3311	79 29 40	3325	78 5 57
	α Pegasi E.	103 55 18	3103	102 27 12	3112	100 59 17	3120	99 31 32
25	SUN W.	108 11 23	3367	109 34 17	3375	110 57 2	3382	112 19 39
	Spica π W.	58 35 45	3009	60 5 47	3016	61 35 40	3022	63 5 25
	Mars W.	28 4 43	3265	29 29 36	3270	30 54 23	3275	32 19 4
	Fomalhaut E.	71 11 32	3412	69 49 29	3429	68 27 45	3444	67 6 18
	α Pegasi E.	92 15 18	3168	90 48 31	3176	89 21 53	3183	87 55 23
26	SUN W.	119 10 45	3420	120 32 39	3424	121 54 28	3429	123 16 12
	Mars W.	39 21 11	3301	40 45 22	3303	42 9 30	3306	43 33 34
	Jupiter W.	21 55 21	3179	23 21 55	3171	24 48 39	3165	26 15 30
	Fomalhaut E.	60 23 45	3549	59 4 15	3568	57 45 6	3589	56 26 20
	α Pegasi E.	80 44 54	3222	79 19 11	3227	77 53 34	3233	76 28 4
27	SUN W.	130 3 55	3446	131 25 20	3448	132 46 42	3448	134 8 4
	Mars W.	50 33 15	3318	51 57 6	3319	53 20 56	3319	54 44 45
	Antares W.	36 32 14	3070	38 1 0	3072	39 29 44	3072	40 58 28
	Jupiter W.	33 31 2	3143	34 58 19	3142	36 25 38	3138	37 53 1
	α Pegasi E.	69 22 9	3265	67 57 16	3271	66 32 30	3276	65 7 50
28	Mars W.	61 43 57	3315	63 7 51	3313	64 31 47	3311	65 55 46
	Antares W.	48 22 7	3070	49 50 53	3068	51 19 42	3066	52 48 33
	Jupiter W.	45 10 35	3124	46 38 16	3122	48 5 59	3119	49 33 46
	Saturn W.	29 27 55	3120	30 55 40	3115	32 23 32	3109	33 51 31
	α Pegasi E.	58 6 6	3311	56 42 7	3317	55 18 15	3325	53 54 32
	α Arietis E.	99 38 11	3095	98 9 43	3083	96 41 13	3082	95 12 41
29	Mars W.	72 56 22	3294	74 20 40	3290	75 45 3	3287	77 9 30
	Antares W.	60 13 29	3051	61 42 39	3047	63 11 54	3043	64 41 13
	Jupiter W.	56 53 43	3097	58 21 56	3094	59 50 13	3088	61 18 37
	Saturn W.	41 12 57	3078	42 41 33	3074	44 10 14	3068	45 39 3
	α Pegasi E.	46 58 31	3385	45 35 57	3398	44 13 39	3414	42 51 38
	α Arietis E.	87 49 16	3065	86 20 24	3061	84 51 27	3059	83 22 27
30	Mars W.	84 13 4	3259	85 38 4	3253	87 3 10	3248	88 28 23
	Antares W.	72 9 7	3016	73 39 0	3012	75 8 58	3006	76 39 3
	Jupiter W.	68 41 57	3060	70 10 56	3055	71 40 1	3050	73 9 12
	Saturn W.	53 4 41	3036	54 34 9	3030	56 3 44	3025	57 33 26
	α Arietis E.	75 56 8	3033	74 26 36	3027	72 56 57	3023	71 27 13
31	Mars W.	95 36 6	3213	97 2 0	3206	98 28 2	3200	99 54
	Jupiter W.	80 36 56	3014	82 6 51	3009	83 36 53	3002	85
	Saturn W.	65 3 49	2988	66 34 17	2981	68 4 53	2975	69
	α Arietis E.	63 56 54	2991	62 26 30	2986	60 56 0	2980	59
	Aldebaran E.	96 11 0	3040	94 41 37	3034	93 12 6	3027	91

MEAN TIME.

LUNAR DISTANCES.

the MONTH.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
5	SUN W.	91 20 55	3233	92 46 25	3247	94 11 39	3259	95 36 38	3272
	Spica ♀ W.	40 20 38	2892	41 53 7	2904	43 25 21	2916	44 57 20	2926
	Saturn E.	25 12 26	2952	23 41 13	2975	22 10 29	3000	20 40 16	3026
	α Aquilæ E.	64 53 26	3680	63 36 18	3714	62 19 46	3750	61 3 52	3788
	Fomalhaut E.	87 57 37	3242	86 32 17	3256	85 7 14	3269	83 42 26	3282
6	SUN W.	102 38 0	3330	104 1 37	3339	105 25 3	3349	106 48 18	3358
	Spica ♀ W.	52 33 58	2977	54 4 40	2985	55 35 12	2993	57 5 34	3002
	Fomalhaut E.	76 42 31	3353	75 19 21	3367	73 56 27	3383	72 33 51	3398
	α Pegasi E.	98 3 58	3138	96 36 34	3145	95 9 19	3153	93 42 14	3161
5	SUN W.	113 42 7	3397	115 4 27	3404	116 26 39	3409	117 48 45	3415
	Spica ♀ W.	64 35 2	3035	66 4 31	3040	67 33 54	3046	69 3 10	3051
	Mars W.	33 43 40	3283	35 8 11	3288	36 32 36	3293	37 56 56	3297
	Fomalhaut E.	65 45 9	3477	64 24 19	3494	63 3 48	3511	61 43 36	3530
	α Pegasi E.	86 29 2	3197	85 2 49	3203	83 36 43	3209	82 10 45	3215
6	SUN W.	124 37 51	3436	125 59 27	3439	127 20 59	3442	128 42 28	3444
	Mars W.	44 57 35	3312	46 21 33	3313	47 45 29	3315	49 9 23	3317
	Jupiter W.	27 42 27	3155	29 9 30	3152	30 36 37	3148	32 3 48	3146
	Fomalhaut E.	55 7 59	3635	53 50 2	3659	52 32 31	3686	51 15 29	3713
	α Pegasi E.	75 2 40	3244	73 37 23	3249	72 12 12	3255	70 47 8	3259
7	SUN W.	135 29 24	3450	136 50 44	3451	138 12 3	3451	139 33 22	3449
	Mars W.	56 8 35	3319	57 32 24	3319	58 56 14	3318	60 20 5	3317
	Antares W.	42 27 11	3073	43 55 54	3073	45 24 37	3072	46 53 21	3070
	Jupiter W.	39 20 26	3134	40 47 54	3132	42 15 25	3129	43 42 59	3128
	α Pegasi E.	63 43 16	3286	62 18 48	3292	60 54 27	3298	59 30 13	3304
8	Mars W.	67 19 47	3307	68 43 51	3305	70 7 57	3301	71 32 8	3298
	Antares W.	54 17 26	3062	55 46 22	3060	57 15 21	3057	58 44 23	3054
	Jupiter W.	51 1 37	3112	52 29 32	3109	53 57 31	3105	55 25 35	3101
	Saturn W.	35 19 36	3099	36 47 47	3094	38 16 4	3088	39 44 28	3084
	α Pegasi E.	52 30 58	3341	51 7 34	3351	49 44 21	3360	48 21 19	3372
	α Arietis E.	93 44 6	3077	92 15 28	3074	90 46 47	3072	89 18 3	3069
9	Mars W.	78 34 2	3277	79 58 40	3274	81 23 22	3269	82 48 10	3264
	Antares W.	66 10 37	3035	67 40 7	3031	69 9 41	3026	70 39 21	3022
	Jupiter W.	62 47 5	3080	64 15 39	3075	65 44 19	3070	67 13 5	3065
	Saturn W.	47 7 57	3058	48 36 58	3052	50 6 6	3047	51 35 20	3042
	α Pegasi E.	41 29 58	3451	40 8 39	3473	38 47 45	3499	37 27 20	3528
	α Arietis E.	81 53 21	3051	80 24 11	3046	78 54 55	3042	77 25 34	3038
0	Mars W.	89 53 42	3237	91 19 7	3231	92 44 40	3226	94 10 19	3219
	Antares W.	78 9 14	2995	79 39 33	2990	81 9 58	2985	82 40 30	2978
	Jupiter W.	74 38 31	3038	76 7 56	3033	77 37 28	3026	79 7 8	3020
	Saturn W.	59 3 15	3013	60 33 12	3006	62 3 17	3001	63 33 29	2994
	α Arietis E.	69 57 22	3013	68 27 25	3008	66 57 22	3002	65 27 11	2997
1	Mars W.	28 3187		102 46 53	3180	104 13 26	3173	105 40 7	3167
	J ₁		9	88 7 47	2982	89 38 22	2977	91 9 4	2970
	S			37 30	2955	74 8 39	2948	75 39 57	2942
	α			44	2963	54 52 45	2957	53 21 38	2951
	A			46	3008	87 12 43	3001	85 42 32	2995




CONFIGURATIONS OF THE SATELLITES OF JUPITER.

At 8^h 30^m, MEAN TIME.

Day of the Month.	West.				East.				
1		3.	¹ ₄ .	2.	○				
2		³ ₄ .	2.		○	1.			
3		4.		3.	1.	○	2.		
4		4.			○	1.	³ ₂ .		
5		4.		2.	○			3.	
6		4.		² ₁ .	○			3.	
7		4.			○	1.	2.		
8			3.	4.	1.	○			
9			3.	2.	○	4.	1.		
10				3.	1.	○	2.	4.	
11					○	1.	³ ₂ .	4.	
12	1. ●			2.	○			3.	4.
13				2.	1.	○		3.	4.
14					○	3.	1.	2.	4.
15			3.	1.	○	2.			4.
16			3.	2.	○	1.	4.		
17	2. ●			3.	1.	○	4.		
18	3. ●			4.		○	1.	2.	
19			4.	2.	1.	○			3.
20			4.		2.	○			3.
21			4.			○	¹ ₃ .	2.	
22			4.		3.	1.	○	2.	
23			4.	3.	2.		○	1.	
24	2. ●		4.	3.	1.		○		
25				4.		○	3.	1.	2.
26				² ₁ .		○	4.		3.
27				2.		○	1.		⁴ ₃ .
28	1. ●					○	3.	2.	4.
29				3.	1.	○	2.		4.
30			3.	2.		○	1.		4.
31			3.	1.	2.	○			4.

This Table represents, at 8^h 30^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page, the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards* Jupiter. At its greatest elongation, the point is placed above or below the circle (○) at the left or right hand of the page, denotes that it is on the disc of Jupiter, and a black circle (●) that it is *in* Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

ECLIPSE.	Day of the Month.	Mean Time.			Sidereal Time.			PHASE as seen in an inverting Telescope.	
		^h 20	^m 26	^s 31.4	^h 5	^m 9	^s 34.0		
I.	1	20	26	31.4	5	9	34.0		
	3	14	55	14.7	23	45	16.0		
	5*	9	24	1.9	18	21	1.9		
	7	3	52	46.2	12	56	44.9		
	8	22	21	35.4	7	32	32.8		
	10	16	50	19.0	2	8	15.1		
	12	11	19	6.4	20	44	1.2		
	14	5	47	50.9	15	19	44.4		
	16	0	16	40.3	9	55	32.6		
	17	18	45	24.3	4	31	15.2		
	19	13	14	11.5	23	7	1.1		
	21	7	42	55.9	17	42	44.2		
	23	2	11	45.3	12	18	32.3		
	24	20	40	29.2	6	54	14.8		
	26	15	9	16.3	1	30	0.7		
	28	9	38	0.7	20	5	43.8		
	30	4	6	49.7	14	41	31.5		
	31	22	35	33.6	9	17	14.1		
II.	3	3	54	24.2	12	42	36.9		
	6	17	12	30.2	2	14	43.8		
	10	6	31	2.7	15	47	17.1		
	13	19	49	12.5	5	19	27.6		
	17*	9	7	53.1	18	52	9.1		
	20	22	26	6.5	8	24	23.3		
	24	11	44	54.3	21	57	12.0		
	27	22	27	20.5	8	53	13.4		
	28	1	3	10.9	11	29	29.5		
	31	11	46	1.4	22	25	55.2		
	31	14	22	5.7	1	2	25.1		
II.	3	22	25	2.0	7	16	17.2		
	4	1	2	1.8	9	53	42.8		
	11	2	24	17.1	11	43	47.5		
	11	5	2	10.9	14	22	7.2		
	18	6	23	28.2	16	11	13.7		
	18*	9	2	13.7	18	50	25.4		
	25	10	22	35.0	20	38	35.8		
	25	13	2	13.6	23	18	40.5		

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.			TRANSITS OF SATELLITES.			TRANSITS OF SHADOWS.		
	Immersion.	Emersion.		Ingress.	Egress.		Ingress.	Egress.	
I.	d h m	d h m		d h m	d h m		d h m	d h m	
	1 1 49			2 23 0	2 1 15		2 0 8	2 2 3	
	3 20 24			4* 17 35	4 19 49		4* 18 44	4 20 1	
	5 14 58			6 12 9	6 14 24		6 13 20	6 15 1	
	7 9 33			7 6 44	7 8 59		7 7 55	8 10 1	
	8 4 8			9 1 19	9 3 34		9 2 31	9 4 4	
	10 22 43			11 19 54	11 22 9		11 21 7	11 23 2	
	12 17 18	In		13 14 29	13 16 44		13 15 43	13* 17 1	
	14 11 53			14 9 4	15 11 19		15 10 18	15 12 1	
	15 6 28	the		16 3 39	16 5 54		16 4 54	16 7 7	
	17 1 3	Shadow.		18 22 14	18 0 29		18 23 30	18 1 4	
	19 19 38			20 16 49	20* 19 4		20* 18 6	20 20 2	
	21 14 13			22 11 25	22 13 40		22 12 41	22 14 1	
	22 8 49			23 6 0	23 8 15		23 7 17	23 9 1	
	24 3 24			25 0 36	25 2 51		25 1 53	25 4 4	
	26 22 0			27* 19 11	27 21 26		27 20 29	27 22 4	
	28 16 35			29 13 47	29 16 2		29 15 5	29 17 2	
	30 11 11			30 8 22	30 10 37		30 9 40	31 11 5	
	31 5 46								
II.	2 7 50			1 13 37	1 16 13		1 15 51	1* 18 1	
	6 21 17	In		4 3 5	4 5 41		4 5 23	4 8 8	
	10 10 46			8 16 33	8* 19 9		8* 18 55	8 21 1	
	13 0 14	the		11 6 1	11 8 38		11 8 27	12 11 1	
	17 13 44	Shadow.		15 19 30	15 22 7		15 21 59	15 0 1	
	20 3 13			18 8 59	19 11 36		19 11 32	19 14 1	
	24 16 44			22 22 29	22 1 6		22 1 3	22 3 4	
	27 6 15	27 8 53		26 12 0	26 14 37		26 14 35	26 17 1	
	31 19 47	31 22 25		29 1 31	29 4 9		29 4 7	29 6 4	
III.	3 2 33	3 5 18		7 16 42	7 19 28		7 21 28	7 0 1	
	10 6 44	11 9 31		14 20 56	14 23 43		14 1 56	14 4 4	
	18 11 0	18 13 48		21 1 15	21 4 3		21 6 24	21 9 9	
	25 15 20	25* 18 9		28 5 38	28 8 28		29 10 52	29 13 1	

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^d .809525. Days.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D				
1	+1.0745	-1.1964	+9.9392	-0.7583	15 17 48.10	131	212	.580
2	1.0831	1.1904	9.9408	0.7592	15 13 52.19	132	213	.583
3	1.0915	1.1841	9.9423	0.7600	15 9 56.27	133	214	.586
4	+1.0996	-1.1776	+9.9438	-0.7609	15 6 0.37	134	215	.589
5	1.1074	1.1708	9.9453	0.7618	15 2 4.45	135	216	.591
6	1.1150	1.1639	9.9467	0.7627	14 58 8.55	136	217	.594
7	+1.1224	-1.1567	+9.9482	-0.7636	14 54 12.63	137	218	.597
8	1.1295	1.1492	9.9496	0.7644	14 50 16.72	138	219	.600
9	1.1363	1.1415	9.9510	0.7653	14 46 20.81	139	220	.602
0	+1.1430	-1.1335	+9.9524	-0.7662	14 42 24.90	140	221	.605
1	1.1494	1.1253	9.9538	0.7670	14 38 28.99	141	222	.608
2	1.1556	1.1168	9.9551	0.7679	14 34 33.08	142	223	.611
3	+1.1616	-1.1079	+9.9565	-0.7687	14 30 37.18	143	224	.613
4	1.1674	1.0988	9.9578	0.7696	14 26 41.26	144	225	.616
5	1.1731	1.0893	9.9591	0.7704	14 22 45.36	145	226	.619
6	+1.1785	-1.0795	+9.9603	-0.7712	14 18 49.45	146	227	.621
7	1.1837	1.0693	9.9616	0.7720	14 14 53.54	147	228	.624
8	1.1888	1.0588	9.9629	0.7728	14 10 57.63	148	229	.627
9	+1.1936	-1.0478	+9.9641	-0.7735	14 7 1.72	149	230	.630
0	1.1984	1.0365	9.9653	0.7743	14 3 5.81	150	231	.632
1	1.2029	1.0247	9.9665	0.7750	13 59 9.90	151	232	.635
2	+1.2072	-1.0124	+9.9677	-0.7757	13 55 13.99	152	233	.638
3	1.2115	0.9997	9.9689	0.7763	13 51 18.08	153	234	.641
4	1.2155	0.9865	9.9700	0.7770	13 47 22.17	154	235	.643
5	+1.2194	-0.9727	+9.9712	-0.7776	13 43 26.26	155	236	.646
6	1.2231	0.9583	9.9723	0.7782	13 39 30.36	156	237	.649
7	1.2267	0.9433	9.9734	0.7788	13 35 34.45	157	238	.652
8	+1.2301	-0.9276	+9.9745	-0.7793	13 31 38.54	158	239	.654
9	1.2334	0.9112	9.9756	0.7798	13 27 42.63	159	240	.657
0	1.2365	0.8940	9.9767	0.7803	13 23 46.72	160	241	.660
1	1.2395	0.8760	9.9778	0.7808	13 19 50.82	161	242	.663
		-0.8570	+9.9788	-0.7812	13 15 54.91	162	243	.665

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.	Diff. for 1 hour.		
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.					
		h m s	s	° ' "	"	m s	m s	s		
Wed.	1	10 41 44	34	9° 065	N. 8 16 10	8	54° 65	1 4° 36	0 9° 98	0° 7
Thur.	2	10 45 21	89	9° 053	7 54 19	2	54° 97	1 4° 32	0 28° 93	0° 9
Frid.	3	10 48 59	16	9° 042	7 32 19	9	55° 28	1 4° 28	0 48° 16	0° 9
Sat.	4	10 52 36	17	9° 033	7 10 13	2	55° 58	1 4° 24	1 7° 65	0° 9
Sun.	5	10 56 12	96	9° 024	6 47 59	3	55° 86	1 4° 20	1 27° 36	0° 9
Mon.	6	10 59 49	53	9° 016	6 25 38	6	56° 13	1 4° 17	1 47° 29	0° 9
Tues.	7	11 3 25	91	9° 009	6 3 11	4	56° 39	1 4° 14	2 7° 40	0° 9
Wed.	8	11 7 2	13	9° 003	5 40 38	0	56° 64	1 4° 11	2 27° 68	0° 9
Thur.	9	11 10 38	20	8° 997	5 17 58	7	56° 86	1 4° 09	2 48° 12	0° 9
Frid.	10	11 14 14	12	8° 992	4 55 14	0	57° 08	1 4° 07	3 8° 69	0° 9
Sat.	11	11 17 49	94	8° 988	4 32 24	1	57° 28	1 4° 05	3 29° 38	0° 9
Sun.	12	11 21 25	65	8° 984	4 9 29	3	57° 47	1 4° 04	3 50° 16	0° 9
Mon.	13	11 25 1	26	8° 982	3 46 30	0	57° 64	1 4° 03	4 11° 04	0° 9
Tues.	14	11 28 36	83	8° 980	3 23 26	7	57° 80	1 4° 02	4 31° 97	0° 9
Wed.	15	11 32 12	35	8° 978	3 0 19	5	57° 94	1 4° 02	4 52° 95	0° 9
Thur.	16	11 35 47	83	8° 977	2 37 9	0	58° 07	1 4° 01	5 13° 96	0° 9
Frid.	17	11 39 23	29	8° 978	2 13 55	4	58° 17	1 4° 01	5 34° 99	0° 9
Sat.	18	11 42 58	76	8° 978	1 50 39	2	58° 27	1 4° 01	5 56° 02	0° 9
Sun.	19	11 46 34	24	8° 980	1 27 20	6	58° 35	1 4° 02	6 17° 04	0° 9
Mon.	20	11 50 9	76	8° 982	1 4 0	1	58° 42	1 4° 03	6 38° 02	0° 9
Tues.	21	11 53 45	33	8° 985	0 40 38	0	58° 47	1 4° 04	6 58° 94	0° 9
Wed.	22	11 57 20	96	8° 989	N. 0 17 14	6	58° 51	1 4° 05	7 19° 80	0° 9
Thur.	23	12 0 56	69	8° 993	S. 0 6 9	6	58° 54	1 4° 07	7 40° 57	0° 9
Frid.	24	12 4 32	52	8° 999	0 29 34	5	58° 55	1 4° 09	8 1° 23	0° 9
Sat.	25	12 8 8	50	9° 005	0 52 59	6	58° 54	1 4° 11	8 21° 76	0° 9
Sun.	26	12 11 44	62	9° 012	1 16 24	6	58° 52	1 4° 14	8 42° 14	0° 9
Mon.	27	12 15 20	92	9° 021	1 39 49	2	58° 50	1 4° 17	9 2° 33	0° 9
Tues.	28	12 18 57	42	9° 030	2 3 13	2	58° 45	1 4° 20	9 23° 33	0° 9
Wed.	29	12 22 34	15	9° 040	2 26 36	0	58° 39	1 4° 23	9 44° 33	0° 9
Thur.	30	12 26 11	12	9° 052	2 49 57	4	58° 32			
Frid.	31	12 29 48	36		S. 3 13 17	2				

* Mean Time of the Semidiameter passing may be found by 60

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be added to Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
Wed.	1	10 41 44.36	N.8 16 10.7	15 52.8	0 9.98	10 41 54.35
Thur.	2	10 45 21.96	7 54 18.8	15 53.1	0 28.94	10 45 50.90
Frid.	3	10 48 59.28	7 32 19.1	15 53.3	0 48.17	10 49 47.45
Sat.	4	10 52 36.34	7 10 12.1	15 53.5	1 7.66	10 53 44.01
Sun.	5	10 56 13.18	6 47 58.0	15 53.8	1 27.38	10 57 40.56
Mon.	6	10 59 49.80	6 25 37.0	15 54.0	1 47.32	11 1 37.11
Tues.	7	11 3 26.23	6 3 9.4	15 54.2	2 7.43	11 5 33.67
Wed.	8	11 7 2.50	5 40 35.7	15 54.5	2 27.72	11 9 30.22
Thur.	9	11 10 38.62	5 17 56.1	15 54.7	2 48.16	11 13 26.78
Frid.	10	11 14 14.59	4 55 11.0	15 55.0	3 8.74	11 17 23.33
Sat.	11	11 17 50.46	4 32 20.7	15 55.2	3 29.43	11 21 19.88
Sun.	12	11 21 26.22	4 9 25.6	15 55.5	3 50.22	11 25 16.44
Mon.	13	11 25 1.89	3 46 26.0	15 55.7	4 11.10	11 29 12.99
Tues.	14	11 28 37.51	3 23 22.3	15 56.0	4 32.03	11 33 9.54
Wed.	15	11 32 13.08	3 0 14.8	15 56.2	4 53.02	11 37 6.10
Thur.	16	11 35 48.61	2 37 3.9	15 56.5	5 14.04	11 41 2.65
Frid.	17	11 39 24.13	2 13 50.0	15 56.8	5 35.07	11 44 59.20
Sat.	18	11 42 59.65	1 50 33.4	15 57.0	5 56.11	11 48 55.76
Sun.	19	11 46 35.18	1 27 14.5	15 57.3	6 17.13	11 52 52.31
Mon.	20	11 50 10.75	1 3 53.7	15 57.6	6 38.11	11 56 48.86
Tues.	21	11 53 46.37	0 40 31.2	15 57.9	6 59.04	12 0 45.42
Wed.	22	11 57 22.06	N.0 17 7.5	15 58.1	7 19.91	12 4 41.97
Thur.	23	12 0 57.84	S.0 6 17.1	15 58.4	7 40.68	12 8 38.52
Frid.	24	12 4 33.73	0 29 42.3	15 58.7	8 1.35	12 12 35.08
Sat.	25	12 8 9.75	0 53 7.8	15 59.0	8 21.88	12 16 31.63
Sun.	26	12 11 45.92	1 16 33.1	15 59.2	8 42.26	12 20 28.18
Mon.	27	12 15 22.28	1 39 58.1	15 59.5	9 2.46	12 24 24.74
Tues.	28	12 18 58.83	2 3 22.3	15 59.8	9 22.46	12 28 21.29
Wed.	29	12 22 35.61	2 26 45.4	16 0.1	9 42.23	12 32 17.84
		12 26 12.63	2 50 7.2	16 0.4	10 1.76	12 36 14.40
		12 29 49.92	S.3 13 27.3	16 0.6	10 21.03	12 40 10.95

Apparent Noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	158° 49' 19" 9	N. 0° 06'	0.0036730	14° 56' 5"	14° 59' 5"	54° 49' 8"	55° 1'
2	159 47 27 5	0 15	0.0035669	15 2 8	15 6 4	55 13 2	55 26
3	160 45 36 9	0 22	0.0034602	15 10 1	15 14 0	55 39 9	55 54
4	161 43 48 1	0 26	0.0033530	15 18 2	15 22 5	56 9 4	56 25
5	162 42 1 3	0 28	0.0032453	15 26 9	15 31 5	56 41 3	56 58
6	163 40 16 5	0 26	0.0031368	15 36 2	15 41 0	57 15 6	57 33
7	164 38 33 8	0 21	0.0030275	15 45 9	15 50 9	57 51 3	58 9
8	165 36 53 3	0 13	0.0029174	15 55 9	16 0 9	58 28 0	58 46
9	166 35 14 9	N. 0° 04'	0.0028063	16 5 8	16 10 4	59 4 1	59 21
10	167 33 38 5	S. 0° 08'	0.0026942	16 14 7	16 18 6	59 37 0	59 51
11	168 32 4 3	0 21	0.0025810	16 22 0	16 24 7	60 3 6	60 13
12	169 30 32 2	0 34	0.0024667	16 26 5	16 27 6	60 20 3	60 24
13	170 29 2 1	0 47	0.0023512	16 27 7	16 26 7	60 24 4	60 20
14	171 27 34 1	0 59	0.0022343	16 24 7	16 21 7	60 13 5	60 2
15	172 26 8 1	0 69	0.0021161	16 17 7	16 13 0	59 48 0	59 30
16	173 24 44 0	0 77	0.0019966	16 7 5	16 1 3	59 10 3	58 47
17	174 23 21 8	0 82	0.0018758	15 54 7	15 47 8	58 23 5	57 58
18	175 22 1 5	0 85	0.0017539	15 40 8	15 33 7	57 32 5	57 6
19	176 20 42 9	0 85	0.0016309	15 26 8	15 20 2	56 41 2	56 17
20	177 19 26 1	0 81	0.0015070	15 14 0	15 8 2	55 54 3	55 32
21	178 18 11 1	0 74	0.0013822	15 3 0	14 58 5	55 13 8	54 57
22	179 16 57 7	0 65	0.0012568	14 54 5	14 51 3	54 42 7	54 30
23	180 15 46 0	0 54	0.0011309	14 48 8	14 46 9	54 21 7	54 14
24	181 14 36 0	0 41	0.0010046	14 45 8	14 45 4	54 10 7	54 9
25	182 13 27 8	0 26	0.0008781	14 45 5	14 46 3	54 9 6	54 12
26	183 12 21 3	S. 0° 13'	0.0007516	14 47 7	14 49 6	54 17 5	54 24
27	184 11 16 7	0 00	0.0006251	14 51 9	14 54 8	54 33 1	54 43
28	185 10 14 0	N. 0° 12'	0.0004988	14 57 9	15 1 4	54 55 1	55 7
29	186 9 13 1	0 22	0.0003729	15 5 1	15 9 0	55 21 5	55 35
30	187 8 14 2	0 29	0.0002474	15 13 1	15 17 3	55 50 8	56 4
31	188 7 17 4	N. 0° 34'	0.0001224	15 21 5	15 25 8	56 21 8	

MEAN TIME.

		THE MOON'S																				
Day of the Week.	Day of the Month.	Longitude.						Latitude.						Age.		Meridian						
		Noon.			Midnight.			Noon.			Midnight.			Noon.	Passage.							
		°	'	"	°	'	"	°	'	"	°	'	"	a		h	m					
Wed.	1	343	41	55	7	349	49	58	1	N.2	59	0	5	N.3	25	23	0	15	6	12	34	3
Thur.	2	356	0	45	6	2	14	26	7	3	49	31	9	4	11	7	2	16	6	13	15	9
Frid.	3	8	31	7	1	14	50	54	5	4	29	50	7	4	45	24	7	17	6	13	59	0
Sat.	4	21	13	53	8	27	40	12	0	4	57	34	1	5	6	4	8	18	6	14	44	7
Sun.	5	34	9	54	7	40	43	8	4	5	10	44	5	5	11	24	1	19	6	15	34	0
Mon.	6	47	20	0	1	54	0	35	2	5	7	57	0	5	0	18	1	20	6	16	27	4
Tues.	7	60	45	0	3	67	33	21	3	4	48	27	5	4	32	27	1	21	6	17	25	0
Wed.	8	74	25	42	0	81	22	4	5	4	12	23	3	3	48	26	2	22	6	18	25	6
Thur.	9	88	22	29	1	95	26	51	7	3	20	50	8	2	49	55	9	23	6	19	27	1
Frid.	10	102	35	4	6	109	46	54	6	2	16	6	6	1	39	51	4	24	6	20	27	5
Sat.	11	117	2	3	6	124	20	4	6	N.1	1	44	1	N.0	22	22	4	25	6	21	25	2
Sun.	12	131	40	26	0	139	2	28	1	S.0	17	31	8	S.0	57	15	4	26	6	22	19	7
Mon.	13	146	25	25	9	153	48	27	6	1	36	4	7	2	13	14	1	27	6	23	11	5
Tues.	14	161	10	38	7	168	31	3	4	2	48	2	9	3	19	53	3	28	6	24		
Wed.	15	175	48	45	0	183	2	49	8	3	48	13	3	4	12	36	3	0	2	0	1	5
Thur.	16	190	12	30	1	197	17	2	9	4	32	44	2	4	48	23	9	1	2	0	51	0
Frid.	17	204	15	55	7	211	8	43	0	4	59	31	1	5	6	6	3	2	2	1	40	7
Sat.	18	217	55	9	6	224	35	10	6	5	8	16	3	5	6	11	2	3	2	2	31	4
Sun.	19	231	8	48	8	237	36	16	0	5	0	5	0	4	50	13	1	4	2	3	23	4
Mon.	20	243	57	50	6	250	13	57	9	4	36	53	5	4	20	24	0	5	2	4	16	3
Tues.	21	256	25	6	9	262	31	51	7	4	1	3	8	3	39	10	3	6	2	5	9	3
Wed.	22	268	34	48	5	274	31	35	8	3	15	2	2	2	48	56	6	7	2	6	1	4
Thur.	23	280	31	53	3	286	27	21	0	2	21	11	8	1	52	4	1	8	2	6	51	7
Frid.	24	292	21	38	7	298	15	24	9	1	21	51	0	S.0	50	48	5	9	2	7	39	5
Sat.	25	304	9	17	5	310	3	52	2	S.0	19	14	4	N.0	12	34	3	10	2	8	24	9
Sun.	26	315	59	42	4	321	57	19	4	N.0	44	19	0	1	15	41	8	11	2	9	8	3
Mon.	27	327	57	10	2	333	59	39	6	1	46	24	2	2	16	4	8	12	2	9	50	2
Tues.	28	340	5	8	7	346	13	53	8	2	44	24	6	3	11	2	3	13	2	10	31	6
Wed.	29	352	26	7	2	358	41	57	9	3	35	36	8	3	57	48	3	14	2	11	13	3
		1	29	5		11	24	42	7	4	17	15	2	4	33	39	5	15	2	11	56	4
						24	21	57	7	N.4	46	44	0	N.4	56	11	1	16	2	12	41	9

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	0
<i>WEDNESDAY 1.</i>				<i>FRIDAY 3.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	22 55 20.14	S. 3 39 39.9	138.03	0	0 24 8.58	N. 7 30 41.6	1
1	22 57 9.64	3 25 51.7	138.23	1	0 26 2.73	7 44 28.5	1
2	22 58 59.14	3 12 2.3	138.43	2	0 27 57.07	7 58 14.1	1
3	23 0 48.65	2 58 11.7	138.62	3	0 29 51.61	8 11 58.2	1
4	23 2 38.18	2 44 20.0	138.78	4	0 31 46.36	8 25 40.7	1
5	23 4 27.72	2 30 27.3	138.95	5	0 33 41.32	8 39 21.7	1
6	23 6 17.28	2 16 33.6	139.12	6	0 35 36.48	8 53 1.0	1
7	23 8 6.87	2 2 38.9	139.27	7	0 37 31.87	9 6 38.7	1
8	23 9 56.48	1 48 43.3	139.42	8	0 39 27.47	9 20 14.5	1
9	23 11 46.12	1 34 46.8	139.53	9	0 41 23.30	9 33 48.5	1
10	23 13 35.80	1 20 49.6	139.67	10	0 43 19.36	9 47 20.7	1
11	23 15 25.52	1 6 51.6	139.78	11	0 45 15.65	10 0 50.8	1
12	23 17 15.28	0 52 52.9	139.90	12	0 47 12.17	10 14 19.0	1
13	23 19 5.09	0 38 53.5	139.98	13	0 49 8.93	10 27 45.1	1
14	23 20 54.94	0 24 53.6	140.08	14	0 51 5.94	10 41 9.0	1
15	23 22 44.85	S. 0 10 53.1	140.17	15	0 53 3.19	10 54 30.7	1
16	23 24 34.82	N. 0 3 7.9	140.25	16	0 55 0.70	11 7 50.1	1
17	23 26 24.85	0 17 9.4	140.30	17	0 56 58.46	11 21 7.2	1
18	23 28 14.95	0 31 11.2	140.37	18	0 58 56.49	11 34 21.8	1
19	23 30 5.12	0 45 13.4	140.42	19	1 0 54.77	11 47 34.0	1
20	23 31 55.36	0 59 15.9	140.45	20	1 2 53.33	12 0 43.6	1
21	23 33 45.68	1 13 18.6	140.48	21	1 4 52.15	12 13 50.6	1
22	23 35 36.08	1 27 21.5	140.50	22	1 6 51.26	12 26 55.0	1
23	23 37 26.57	N. 1 41 24.5	140.52	23	1 8 50.64	N. 12 39 56.5	1
<i>THURSDAY 2.</i>				<i>SATURDAY 4.</i>			
0	23 39 17.16	N. 1 55 27.6	140.52	0	1 10 50.31	N. 12 52 55.3	1
1	23 41 7.84	2 9 30.7	140.52	1	1 12 50.27	13 5 51.2	1
2	23 42 58.61	2 23 33.8	140.50	2	1 14 50.51	13 18 44.1	1
3	23 44 49.49	2 37 36.8	140.48	3	1 16 51.05	13 31 34.0	1
4	23 46 40.47	2 51 39.7	140.43	4	1 18 51.89	13 44 20.8	1
5	23 48 31.57	3 5 42.3	140.40	5	1 20 53.04	13 57 4.4	1
6	23 50 22.77	3 19 44.7	140.35	6	1 22 54.49	14 9 44.8	1
7	23 52 14.10	3 33 46.8	140.30	7	1 24 56.25	14 22 21.9	1
8	23 54 5.55	3 47 48.6	140.22	8	1 26 58.32	14 34 55.5	1
9	23 55 57.12	4 1 49.9	140.15	9	1 29 0.71	14 47 25.8	1
10	23 57 48.82	4 15 50.8	140.05	10	1 31 3.42	14 59 52.4	1
11	23 59 40.66	4 29 51.1	139.97	11	1 33 6.46	15 12 15.5	1
12	0 1 32.63	4 43 50.9	139.85	12	1 35 9.82	15 24 34.9	1
13	0 3 24.74	4 57 50.0	139.73	13	1 37 13.51	15 36 50.5	1
14	0 5 17.00	5 11 48.4	139.62	14	1 39 17.54	15 49 2.3	1
15	0 7 9.42	5 25 46.1	139.47	15	1 41 21.90	16 1 10.2	1
16	0 9 1.98	5 39 42.9	139.33	16	1 43 26.61	16 13 14.1	1
17	0 10 54.71	5 53 38.9	139.18	17	1 45 31.66	16 25 14.0	1
18	0 12 47.60	6 7 34.0	139.00	18	1 47 37.05	16 37 9.7	1
19	0 14 40.66	6 21 28.0	138.85	19	1 49 42.80	16 49 1.2	1
20	0 16 33.88	6 35 21.1	138.65	20	1 51 48.90	17 0 48.4	1
21	0 18 27.29	6 49 13.0	138.47	21	1 53 55.35	17 12 31.2	1
22	0 20 20.87	7 3 3.8	138.25	22	1 56 2.17	17 24 9.6	1
23	0 22 14.63	7 16 53.3	138.05	23	1 58 9.34	17 35 43.5	1
24	0 24 8.58	N. 7 30 41.6		24	2 0 16.88	N. 17 47 12.8	1

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SUNDAY 5.				TUESDAY 7.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	2 0 16.88	N.17 47 12.8	114.10	0	3 49 59.18	N.25 1 33.9	60.38
1	2 2 24.79	17 58 37.4	113.30	1	3 52 25.96	25 7 36.2	58.92
2	2 4 33.06	18 9 57.2	112.50	2	3 54 53.10	25 13 29.7	57.45
3	2 6 41.71	18 21 12.2	111.68	3	3 57 20.61	25 19 14.4	55.97
4	2 8 50.74	18 32 22.3	110.85	4	3 59 48.48	25 24 50.2	54.47
5	2 11 0.14	18 43 27.4	110.00	5	4 2 16.70	25 30 17.0	52.95
6	2 13 9.92	18 54 27.4	109.15	6	4 4 45.27	25 35 34.7	51.45
7	2 15 20.08	19 5 22.3	108.27	7	4 7 14.19	25 40 43.4	49.90
8	2 17 30.63	19 16 11.9	107.38	8	4 9 43.45	25 45 42.8	48.35
9	2 19 41.56	19 26 56.2	106.48	9	4 12 13.05	25 50 32.9	46.80
10	2 21 52.88	19 37 35.1	105.57	10	4 14 42.98	25 55 13.7	45.22
11	2 24 4.59	19 48 8.5	104.63	11	4 17 13.23	25 59 45.0	43.65
12	2 26 16.69	19 58 36.3	103.70	12	4 19 43.81	26 4 6.9	42.05
13	2 28 29.19	20 8 58.5	102.75	13	4 22 14.71	26 8 19.2	40.45
14	2 30 42.08	20 19 15.0	101.77	14	4 24 45.91	26 12 21.9	38.83
15	2 32 55.37	20 29 25.6	100.80	15	4 27 17.42	26 16 14.9	37.20
16	2 35 9.07	20 39 30.4	99.78	16	4 29 49.23	26 19 58.1	35.58
17	2 37 23.15	20 49 29.1	98.78	17	4 32 21.34	26 23 31.6	33.92
18	2 39 37.64	20 59 21.8	97.75	18	4 34 53.73	26 26 55.1	32.27
19	2 41 52.53	21 9 8.3	96.70	19	4 37 26.40	26 30 8.7	30.58
20	2 44 7.83	21 18 48.5	95.67	20	4 39 59.35	26 33 12.2	28.92
21	2 46 23.52	21 28 22.5	94.58	21	4 42 32.57	26 36 5.7	27.23
22	2 48 39.62	21 37 50.0	93.50	22	4 45 6.04	26 38 49.1	25.53
23	2 50 56.13	N.21 47 11.0	92.40	23	4 47 39.78	N.26 41 22.3	23.83
MONDAY 6.				WEDNESDAY 8.			
0	2 53 13.04	N.21 56 25.4	91.28	0	4 50 13.76	N.26 43 45.3	22.12
1	2 55 30.36	22 5 33.1	90.17	1	4 52 47.99	26 45 58.0	20.38
2	2 57 48.08	22 14 34.1	89.02	2	4 55 22.44	26 48 0.3	18.65
3	3 0 6.20	22 23 28.2	87.85	3	4 57 57.13	26 49 52.2	16.92
4	3 2 24.74	22 32 15.3	86.70	4	5 0 32.03	26 51 33.7	15.18
5	3 4 43.68	22 40 55.5	85.50	5	5 3 7.14	26 53 4.8	13.42
6	3 7 3.02	22 49 28.5	84.32	6	5 5 42.46	26 54 25.3	11.65
7	3 9 22.77	22 57 54.4	83.10	7	5 8 17.97	26 55 35.2	9.88
8	3 11 42.92	23 6 13.0	81.87	8	5 10 53.67	26 56 34.5	8.12
9	3 14 3.47	23 14 24.2	80.63	9	5 13 29.55	26 57 23.2	6.33
10	3 16 24.43	23 22 28.0	79.38	10	5 16 5.60	26 58 1.2	4.55
11	3 18 45.78	23 30 24.3	78.12	11	5 18 41.82	26 58 28.5	2.77
12	3 21 7.54	23 38 13.0	76.83	12	5 21 18.19	26 58 45.1	0.97
13	3 23 29.70	23 45 54.0	75.55	13	5 23 54.71	26 58 50.9	0.85
14	3 25 52.25	23 53 27.3	74.23	14	5 26 31.37	26 58 45.8	2.63
15	3 28 15.20	24 0 52.7	72.90	15	5 29 8.16	26 58 30.0	4.47
16	3 30 38.55	24 8 10.1	71.57	16	5 31 45.08	26 58 3.2	6.27
17	3 33 2.28	24 15 19.5	70.22	17	5 34 22.10	26 57 25.6	8.08
18	3 35 26.41	24 22 20.8	68.87	18	5 36 59.23	26 56 37.1	9.92
19	3 37 50.92	24 29 14.0	67.47	19	5 39 36.46	26 55 37.6	11.73
20	3 40 15.81	24 35 58.8	66.08	20	5 42 13.77	26 54 27.2	13.57
21	3 42 41.09	24 42 35.3	64.68	21	5 44 51.17	26 53 5.8	15.40
22	3 45 6.75	24 49 3.4	63.25	22	5 47 28.63	26 51 33.4	17.22
23	3 47 32.78	24 55 22.9	61.83	23	5 50 6.16	26 49 50.1	19.07
24	3 49 59.18	N.25 1 33.9		24	5 52 43.74	N.26 47 55.7	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
THURSDAY 9.				SATURDAY 11.			
0	5 52 43.74	N.26 47 55.7	20.90	0	7 57 12.06	N.21 46 48.8	103
1	5 55 21.36	26 45 50.3	22.73	1	7 59 42.92	21 36 28.4	104
2	5 57 59.02	26 43 33.9	24.57	2	8 2 13.50	21 25 59.2	105
3	6 0 36.70	26 41 6.5	26.42	3	8 4 43.81	21 15 21.2	107
4	6 3 14.41	26 38 28.0	28.23	4	8 7 13.83	21 4 34.6	109
5	6 5 52.12	26 35 38.6	30.08	5	8 9 43.58	20 53 39.4	110
6	6 8 29.83	26 32 38.1	31.90	6	8 12 13.03	20 42 35.8	112
7	6 11 7.53	26 29 26.7	33.75	7	8 14 42.21	20 31 23.7	113
8	6 13 45.22	26 26 4.2	35.57	8	8 17 11.09	20 20 3.4	114
9	6 16 22.88	26 22 30.8	37.40	9	8 19 39.68	20 8 34.9	116
10	6 19 0.51	26 18 46.4	39.22	10	8 22 7.97	19 56 58.3	117
11	6 21 38.10	26 14 51.1	41.07	11	8 24 35.98	19 45 13.6	118
12	6 24 15.64	26 10 44.7	42.87	12	8 27 3.69	19 33 21.1	120
13	6 26 53.12	26 6 27.5	44.68	13	8 29 31.10	19 21 20.8	121
14	6 29 30.53	26 1 59.4	46.48	14	8 31 58.22	19 9 12.8	122
15	6 32 7.87	25 57 20.5	48.30	15	8 34 25.04	18 56 57.1	123
16	6 34 45.13	25 52 30.7	50.10	16	8 36 51.56	18 44 34.0	124
17	6 37 22.29	25 47 30.1	51.90	17	8 39 17.78	18 32 3.5	125
18	6 39 59.36	25 42 18.7	53.70	18	8 41 43.70	18 19 25.6	126
19	6 42 36.32	25 36 56.5	55.48	19	8 44 9.32	18 6 40.6	127
20	6 45 13.16	25 31 23.6	57.27	20	8 46 34.64	17 53 48.5	128
21	6 47 49.89	25 25 40.0	59.03	21	8 48 59.66	17 40 49.4	129
22	6 50 26.49	25 19 45.8	60.80	22	8 51 24.39	17 27 43.4	130
23	6 53 2.95	N.25 13 41.0	62.57	23	8 53 48.81	N.17 14 30.6	131
FRIDAY 10.				SUNDAY 12.			
0	6 55 39.28	N.25 7 25.6	64.32	0	8 56 12.93	N.17 1 11.2	132
1	6 58 15.45	25 0 59.7	66.08	1	8 58 36.75	16 47 45.2	133
2	7 0 51.46	24 54 23.2	67.80	2	9 1 0.28	16 34 12.8	134
3	7 3 27.31	24 47 36.4	69.53	3	9 3 23.51	16 20 34.0	135
4	7 6 2.99	24 40 39.2	71.27	4	9 5 46.45	16 6 48.9	136
5	7 8 38.49	24 33 31.6	72.97	5	9 8 9.09	15 52 57.8	137
6	7 11 13.80	24 26 13.8	74.67	6	9 10 31.43	15 39 0.6	138
7	7 13 48.93	24 18 45.8	76.37	7	9 12 53.49	15 24 57.5	139
8	7 16 23.87	24 11 7.6	78.05	8	9 15 15.25	15 10 48.6	140
9	7 18 58.60	24 3 19.3	79.73	9	9 17 36.73	14 56 34.0	141
10	7 21 33.13	23 55 20.9	81.38	10	9 19 57.92	14 42 13.8	142
11	7 24 7.44	23 47 12.6	83.03	11	9 22 18.82	14 27 48.2	143
12	7 26 41.54	23 38 54.4	84.68	12	9 24 39.44	14 13 17.2	144
13	7 29 15.42	23 30 26.3	86.30	13	9 26 59.78	13 58 40.9	145
14	7 31 49.07	23 21 48.5	87.92	14	9 29 19.84	13 43 59.5	146
15	7 34 22.48	23 13 1.0	89.53	15	9 31 39.63	13 29 13.1	147
16	7 36 55.66	23 4 3.8	91.12	16	9 33 59.14	13 14 21.8	148
17	7 39 28.60	22 54 57.1	92.70	17	9 36 18.37	12 59 25.7	149
18	7 42 1.30	22 45 40.9	94.28	18	9 38 37.34	12 44 24.9	150
19	7 44 33.74	22 36 15.2	95.82	19	9 40 56.04	12 29 1.1	151
20	7 47 5.93	22 26 40.3	97.37	20	9 43 14.48	12 1	152
21	7 49 37.86	22 16 56.1	98.90	21	9 45 32.66		
22	7 52 9.52	22 7 2.7	100.40	22	9 47 50.58		
23	7 54 40.93	21 57 0.3	101.92	23	9 50 8.21		
24	7 57 12.06	N.21 46 48.8		24	9 52 25.61		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
<i>MONDAY 13.</i>				<i>WEDNESDAY 15.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 52 25.65	N. 11 12 48.7	155.03	0	11 38 35.23	S. 1 49 29.8	164.12
1	9 54 42.81	10 57 18.5	155.67	1	11 40 44.86	2 5 54.5	163.88
2	9 56 59.72	10 41 44.5	156.27	2	11 42 54.42	2 22 17.8	163.62
3	9 59 16.39	10 26 6.9	156.85	3	11 45 3.94	2 38 39.5	163.33
4	10 1 32.82	10 10 25.8	157.42	4	11 47 13.41	2 54 59.5	163.05
5	10 3 49.02	9 54 41.3	157.97	5	11 49 22.84	3 11 17.8	162.73
6	10 6 4.97	9 38 53.5	158.50	6	11 51 32.22	3 27 34.2	162.40
7	10 8 20.70	9 23 2.5	159.00	7	11 53 41.57	3 43 48.6	162.07
8	10 10 36.20	9 7 8.5	159.52	8	11 55 50.88	4 0 1.0	161.72
9	10 12 51.48	8 51 11.4	159.97	9	11 58 0.17	4 16 11.3	161.33
10	10 15 6.54	8 35 11.6	160.43	10	12 0 9.43	4 32 19.3	160.95
11	10 17 21.38	8 19 9.0	160.87	11	12 2 18.67	4 48 25.0	160.55
12	10 19 36.01	8 3 3.8	161.28	12	12 4 27.88	5 4 28.3	160.13
13	10 21 50.43	7 46 56.1	161.68	13	12 6 37.09	5 20 29.1	159.70
14	10 24 4.65	7 30 46.0	162.07	14	12 8 46.30	5 36 27.3	159.23
15	10 26 18.67	7 14 33.6	162.43	15	12 10 55.49	5 52 22.7	158.78
16	10 28 32.49	6 58 19.0	162.77	16	12 13 4.69	6 8 15.4	158.30
17	10 30 46.12	6 42 2.4	163.08	17	12 15 13.89	6 24 5.2	157.82
18	10 32 59.56	6 25 43.9	163.40	18	12 17 23.09	6 39 52.1	157.28
19	10 35 12.82	6 9 23.5	163.67	19	12 19 32.30	6 55 35.8	156.77
20	10 37 25.89	5 53 1.5	163.95	20	12 21 41.52	7 11 16.4	156.23
21	10 39 38.79	5 36 37.8	164.20	21	12 23 50.76	7 26 53.8	155.67
22	10 41 51.51	5 20 12.6	164.43	22	12 26 0.02	7 42 27.8	155.10
23	10 44 4.07	N. 5 3 46.0	164.63	23	12 28 9.31	S. 7 57 58.4	154.52
<i>TUESDAY 14.</i>				<i>THURSDAY 16.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	10 46 16.46	N. 4 47 18.2	164.83	0	12 30 18.61	S. 8 13 25.5	153.92
1	10 48 28.69	4 30 49.2	165.00	1	12 32 27.95	8 28 49.0	153.30
2	10 50 40.77	4 14 19.2	165.17	2	12 34 37.32	8 44 8.8	152.67
3	10 52 52.69	3 57 48.2	165.30	3	12 36 46.72	8 59 24.8	152.03
4	10 55 4.47	3 41 16.4	165.42	4	12 38 56.17	9 14 37.0	151.37
5	10 57 16.10	3 24 43.9	165.53	5	12 41 5.66	9 29 45.2	150.72
6	10 59 27.59	3 8 10.7	165.60	6	12 43 15.20	9 44 49.5	150.03
7	11 1 38.95	2 51 37.1	165.68	7	12 45 24.78	9 59 49.7	149.32
8	11 3 50.17	2 35 3.0	165.72	8	12 47 34.42	10 14 45.6	148.63
9	11 6 1.26	2 18 28.7	165.75	9	12 49 44.11	10 29 37.4	147.90
10	11 8 12.24	2 1 54.2	165.77	10	12 51 53.86	10 44 24.8	147.17
11	11 10 23.09	1 45 19.6	165.77	11	12 54 3.68	10 59 7.8	146.42
12	11 12 33.82	1 28 45.0	165.75	12	12 56 13.55	11 13 46.3	145.67
13	11 14 44.45	1 12 10.5	165.70	13	12 58 23.49	11 28 20.3	144.88
14	11 16 54.97	0 55 36.3	165.65	14	13 0 33.50	11 42 49.6	144.10
15	11 19 5.38	0 39 2.4	165.57	15	13 2 43.59	11 57 14.2	143.32
16	11 21 15.71	0 22 29.0	165.48	16	13 4 53.75	12 11 34.1	142.48
17	11 23 25.93	N. 0 5 56.1	165.37	17	13 7 3.99	12 25 49.0	141.67
18	11 25 36.07	0 10 36.1	165.23	18	13 9 14.30	12 39 59.0	140.83
19	11 27 46.11	0 27 7.5	165.10	19	13 11 24.70	12 54 4.0	139.98
20	11 29 56.15	0 38 1.1	164.93	20	13 13 35.18	13 8 3.9	139.13
21	11 32 6.19	0 47 7.7	164.77	21	13 15 45.75	13 21 58.7	138.25
22	11 34 16.23	0 56 5.7	164.57	22	13 17 56.41	13 35 48.2	137.37
23	11 36 26.27	1 5.35	164.35	23	13 20 7.15	13 49 32.4	136.47
24	11 38 36.31			24	13 22 18.00	S. 14 3 11.2	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
FRIDAY 17.				SUNDAY 19.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	13 22 18.00	S. 14 3 11.2	135.57	0	15 9 9.03	S. 22 52 56.8	
1	13 24 28.94	14 16 44.6	134.63	1	15 11 25.35	23 1 1.5	
2	13 26 39.97	14 30 12.4	133.70	2	15 13 41.76	23 8 58.2	
3	13 28 51.10	14 43 34.6	132.77	3	15 15 58.26	23 16 47.0	
4	13 31 2.33	14 56 51.2	131.82	4	15 18 14.85	23 24 27.8	
5	13 33 13.66	15 10 2.1	130.85	5	15 20 31.54	23 32 0.6	
6	13 35 25.10	15 23 7.2	129.87	6	15 22 48.31	23 39 25.4	
7	13 37 36.64	15 36 6.4	128.90	7	15 25 5.16	23 46 42.0	
8	13 39 48.29	15 48 59.8	127.88	8	15 27 22.10	23 53 50.6	
9	13 42 0.05	16 1 47.1	126.88	9	15 29 39.11	24 0 51.1	
10	13 44 11.91	16 14 28.4	125.87	10	15 31 56.20	24 7 43.4	
11	13 46 23.89	16 27 3.6	124.85	11	15 34 13.36	24 14 27.5	
12	13 48 35.97	16 39 32.7	123.80	12	15 36 30.59	24 21 3.5	
13	13 50 48.17	16 51 55.5	122.77	13	15 38 47.89	24 27 31.3	
14	13 53 0.48	17 4 12.1	121.70	14	15 41 5.25	24 33 50.8	
15	13 55 12.91	17 16 22.3	120.63	15	15 43 22.68	24 40 2.1	
16	13 57 25.46	17 28 26.1	119.57	16	15 45 40.16	24 46 5.1	
17	13 59 38.12	17 40 23.5	118.47	17	15 47 57.71	24 51 59.8	
18	14 1 50.90	17 52 14.3	117.37	18	15 50 15.30	24 57 46.2	
19	14 4 3.80	18 3 58.5	116.28	19	15 52 32.94	25 3 24.3	
20	14 6 16.81	18 15 36.2	115.15	20	15 54 50.63	25 8 54.1	
21	14 8 29.95	18 27 7.1	114.03	21	15 57 8.36	25 14 15.5	
22	14 10 43.20	18 38 31.3	112.90	22	15 59 26.12	25 19 28.5	
23	14 12 56.58	S. 18 49 48.7	111.77	23	16 1 43.93	S. 25 24 33.2	
SATURDAY 18.				MONDAY 20.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	14 15 10.07	S. 19 0 59.3	110.62	0	16 4 1.76	S. 25 29 29.5	
1	14 17 23.69	19 12 3.0	109.45	1	16 6 19.63	25 34 17.4	
2	14 19 37.43	19 22 59.7	108.28	2	16 8 37.52	25 38 56.8	
3	14 21 51.28	19 33 49.4	107.12	3	16 10 55.43	25 43 27.9	
4	14 24 5.26	19 44 32.1	105.93	4	16 13 13.36	25 47 50.5	
5	14 26 19.36	19 55 7.7	104.73	5	16 15 31.31	25 52 4.7	
6	14 28 33.57	20 5 36.1	103.55	6	16 17 49.26	25 56 10.4	
7	14 30 47.91	20 15 57.4	102.33	7	16 20 7.22	26 0 7.8	
8	14 33 2.37	20 26 11.4	101.12	8	16 22 25.19	26 3 56.7	
9	14 35 16.94	20 36 18.1	99.90	9	16 24 43.15	26 7 37.1	
10	14 37 31.63	20 46 17.5	98.68	10	16 27 1.11	26 11 9.1	
11	14 39 46.44	20 56 9.6	97.43	11	16 29 19.05	26 14 32.7	
12	14 42 1.36	21 5 54.2	96.20	12	16 31 36.98	26 17 47.8	
13	14 44 16.40	21 15 31.4	94.93	13	16 33 54.89	26 20 54.5	
14	14 46 31.55	21 25 1.0	93.70	14	16 36 12.79	26 23 52.8	
15	14 48 46.81	21 34 23.2	92.42	15	16 38 30.65	26 26 42.6	
16	14 51 2.19	21 43 37.7	91.17	16	16 40 48.49	26 29 24.0	
17	14 53 17.67	21 52 44.7	89.87	17	16 43 6.29	26 31 56.9	
18	14 55 33.27	22 1 43.9	88.60	18	16 45 24.05	26 34 21.4	
19	14 57 48.97	22 10 35.5	87.32	19	16 47 41.77	26	
20	15 0 4.77	22 19 19.4	86.02	20	16 49 59.45		
21	15 2 20.68	22 27 55.5	84.72	21	16 52 17.07		
22	15 4 36.70	22 36 23.8	83.40	22	16 54 34.64		
23	15 6 52.81	22 44 44.2	82.10	23	16 56 52.16		
24	15 9 9.03	S. 22 52 56.8		24	16 59 9.61	S.	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 21.				THURSDAY 23.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	16 59 9.61	S. 26 45 51.9	14.28	0	18 46 38.99	S. 25 23 20.9	48.13
1	17 1 26.99	26 47 17.6	12.88	1	18 48 48.95	25 18 32.1	49.32
2	17 3 44.31	26 48 34.9	11.50	2	18 50 58.69	25 13 36.2	50.47
3	17 6 1.54	26 49 43.9	10.10	3	18 53 8.20	25 8 33.4	51.62
4	17 8 18.70	26 50 44.5	8.73	4	18 55 17.49	25 3 23.7	52.77
5	17 10 35.77	26 51 36.9	7.33	5	18 57 26.56	24 58 7.1	53.90
6	17 12 52.76	26 52 20.9	5.95	6	18 59 35.40	24 52 43.7	55.05
7	17 15 9.66	26 52 56.6	4.58	7	19 1 44.01	24 47 13.4	56.17
8	17 17 26.46	26 53 24.1	3.20	8	19 3 52.39	24 41 36.4	57.28
9	17 19 43.16	26 53 43.3	1.83	9	19 6 0.55	24 35 52.7	58.38
10	17 21 59.76	26 53 54.3	0.47	10	19 8 8.47	24 30 2.4	59.50
11	17 24 16.25	26 53 57.1	0.92	11	19 10 16.16	24 24 5.4	60.60
12	17 26 32.63	26 53 51.6	2.27	12	19 12 23.61	24 18 1.8	61.68
13	17 28 48.89	26 53 38.0	3.62	13	19 14 30.84	24 11 51.7	62.77
14	17 31 5.04	26 53 16.3	4.98	14	19 16 37.83	24 5 35.1	63.85
15	17 33 21.06	26 52 46.4	6.32	15	19 18 44.58	23 59 12.0	64.92
16	17 35 36.96	26 52 8.5	7.68	16	19 20 51.10	23 52 42.5	65.97
17	17 37 52.73	26 51 22.4	9.02	17	19 22 57.38	23 46 6.7	67.03
18	17 40 8.36	26 50 28.3	10.35	18	19 25 3.43	23 39 24.5	68.08
19	17 42 23.86	26 49 26.2	11.70	19	19 27 9.24	23 32 36.0	69.12
20	17 44 39.21	26 48 16.0	13.02	20	19 29 14.82	23 25 41.3	70.15
21	17 46 54.42	26 46 57.9	14.35	21	19 31 20.16	23 18 40.4	71.18
22	17 49 9.48	26 45 31.8	15.68	22	19 33 25.26	23 11 33.3	72.18
23	17 51 24.39	S. 26 43 57.7	16.98	23	19 35 30.13	S. 23 4 20.2	73.22
WEDNESDAY 22.				FRIDAY 24.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	17 53 39.15	S. 26 42 15.8	18.30	0	19 37 34.76	S. 22 57 0.9	74.22
1	17 55 53.75	26 40 26.0	19.62	1	19 39 39.15	22 49 35.6	75.22
2	17 58 8.18	26 38 28.3	20.92	2	19 41 43.30	22 42 4.3	76.20
3	18 0 22.45	26 36 22.8	22.22	3	19 43 47.22	22 34 27.1	77.18
4	18 2 36.55	26 34 9.5	23.52	4	19 45 50.90	22 26 44.0	78.17
5	18 4 50.48	26 31 48.4	24.78	5	19 47 54.35	22 18 55.0	79.13
6	18 7 4.23	26 29 19.7	26.08	6	19 49 57.56	22 11 0.2	80.08
7	18 9 17.81	26 26 43.2	27.35	7	19 52 0.53	22 2 59.7	81.05
8	18 11 31.21	26 23 59.1	28.62	8	19 54 3.27	21 54 53.4	81.98
9	18 13 44.43	26 21 7.4	29.88	9	19 56 5.78	21 46 41.5	82.93
10	18 15 57.46	26 18 8.1	31.15	10	19 58 8.05	21 38 23.9	83.85
11	18 18 10.30	26 15 1.2	32.40	11	20 0 10.10	21 30 0.8	84.78
12	18 20 22.95	26 11 46.8	33.65	12	20 2 11.91	21 21 32.1	85.70
13	18 22 35.41	26 8 24.9	34.88	13	20 4 13.49	21 12 57.9	86.60
14	18 24 47.67	26 4 55.6	36.12	14	20 6 14.85	21 4 18.3	87.50
15	18 26 59.74	26 1 18.9	37.35	15	20 8 15.98	20 55 33.3	88.40
16	18 29 11.60	25 57 34.8	38.57	16	20 10 16.88	20 46 42.9	89.27
17	18 31 23.26	25 53 43.4	39.78	17	20 12 17.55	20 37 47.3	90.17
18		25 49 44.7	41.00	18	20 14 18.00	20 28 46.3	91.03
19		45 38.7	42.22	19	20 16 18.23	20 19 40.1	91.90
20		43 35.4	43.40	20	20 18 18.24	20 10 28.7	92.75
21		44 30.0	44.60	21	20 20 18.02	20 1 12.2	93.60
22		45 25.7	45.78	22	20 22 17.58	19 51 50.6	94.43
23		46 21.4	46.97	23	20 24 16.93	19 42 24.0	95.28
24				24	20 26 16.06	S. 19 32 52.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
SATURDAY 25.				MONDAY 27.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	20 26 16.06	S. 19 32 52.3	96.10	0	21 58 2.47	S. 10 31 51.6
1	20 28 14.98	19 23 15.7	96.93	1	21 59 53.84	10 19 8.7
2	20 30 13.68	19 13 34.1	97.73	2	22 1 45.13	10 6 23.0
3	20 32 12.17	19 3 47.7	98.55	3	22 3 36.34	9 53 34.3
4	20 34 10.46	18 53 56.4	99.33	4	22 5 27.46	9 40 43.4
5	20 36 8.53	18 44 0.4	100.13	5	22 7 18.51	9 27 49.6
6	20 38 6.41	18 33 59.6	100.90	6	22 9 9.49	9 14 53.1
7	20 40 4.07	18 23 54.2	101.68	7	22 11 0.40	9 1 54.1
8	20 42 1.54	18 13 44.1	102.47	8	22 12 51.24	8 48 52.6
9	20 43 58.81	18 3 29.3	103.20	9	22 14 42.02	8 35 48.6
10	20 45 55.88	17 53 10.1	103.97	10	22 16 32.74	8 22 42.2
11	20 47 52.75	17 42 46.3	104.72	11	22 18 23.40	8 9 33.3
12	20 49 49.43	17 32 18.0	105.45	12	22 20 14.02	7 56 22.1
13	20 51 45.92	17 21 45.3	106.17	13	22 22 4.59	7 43 8.5
14	20 53 42.22	17 11 8.3	106.90	14	22 23 55.11	7 29 52.7
15	20 55 38.34	17 0 26.9	107.62	15	22 25 45.59	7 16 34.6
16	20 57 34.27	16 49 41.2	108.33	16	22 27 36.04	7 3 14.4
17	20 59 30.02	16 38 51.2	109.02	17	22 29 26.44	6 49 52.0
18	21 1 25.59	16 27 57.1	109.73	18	22 31 16.82	6 36 27.7
19	21 3 20.98	16 16 58.7	110.40	19	22 33 7.17	6 23 1.2
20	21 5 16.20	16 5 56.3	111.08	20	22 34 57.50	6 9 32.8
21	21 7 11.24	15 54 49.8	111.77	21	22 36 47.81	5 56 2.5
22	21 9 6.12	15 43 39.2	112.42	22	22 38 38.11	5 42 30.3
23	21 11 0.83	S. 15 32 24.7	113.08	23	22 40 28.39	S. 5 28 56.3
SUNDAY 26.				TUESDAY 28.		
0	21 12 55.37	S. 15 21 6.2	113.73	0	22 42 18.65	S. 5 15 20.5
1	21 14 49.76	15 9 43.8	114.38	1	22 44 8.92	5 1 42.8
2	21 16 43.98	14 58 17.5	115.02	2	22 45 59.18	4 48 3.5
3	21 18 38.05	14 46 47.4	115.63	3	22 47 49.45	4 34 22.5
4	21 20 31.97	14 35 13.6	116.27	4	22 49 39.73	4 20 39.9
5	21 22 25.73	14 23 36.0	116.88	5	22 51 30.01	4 6 55.8
6	21 24 19.35	14 11 54.7	117.48	6	22 53 20.31	3 53 10.2
7	21 26 12.82	14 0 9.8	118.08	7	22 55 10.63	3 39 23.1
8	21 28 6.15	13 48 21.3	118.67	8	22 57 0.97	3 25 34.7
9	21 29 59.34	13 36 29.3	119.27	9	22 58 51.33	3 11 44.9
10	21 31 52.39	13 24 33.7	119.83	10	23 0 41.72	2 57 53.8
11	21 33 45.31	13 12 34.7	120.42	11	23 2 32.14	2 44 1.5
12	21 35 38.10	13 0 32.2	120.98	12	23 4 22.60	2 30 8.0
13	21 37 30.76	12 48 26.3	121.53	13	23 6 13.10	2 16 13.2
14	21 39 23.29	12 36 17.1	122.08	14	23 8 3.64	2 2 17.4
15	21 41 15.71	12 24 4.6	122.62	15	23 9 54.23	1 48 20.5
16	21 43 8.00	12 11 48.9	123.15	16	23 11 44.88	1 34 22.6
17	21 45 0.18	11 59 30.0	123.68	17	23 13 35.58	1 20 23.7
18	21 46 52.25	11 47 7.9	124.20	18	23 15 26.34	1 6 34.4
19	21 48 44.20	11 34 42.7	124.72	19	23 17 17.16	
20	21 50 36.05	11 22 14.4	125.22	20	23 19 8.05	
21	21 52 27.80	11 9 43.1	125.70	21	23 20 59.01	
22	21 54 19.45	10 57 8.9	126.20	22	23 22 50.07	
23	21 56 11.01	10 44 31.7	126.68	23	23 24 41.11	
24	21 58 2.47	S. 10 31 51.6		24	23 26 32.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
WEDNESDAY 29.				THURSDAY 30.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	23 26 32.37	N. 0 17 49.9	140.78	0	0 11 36.48	N. 5 55 56.7	140.05
1	23 28 23.66	0 31 54.6	140.85	1	0 13 31.05	6 9 57.0	139.90
2	23 30 15.04	0 45 59.7	140.93	2	0 15 25.81	6 23 56.4	139.73
3	23 32 6.51	1 0 5.3	140.98	3	0 17 20.76	6 37 54.8	139.55
4	23 33 58.09	1 14 11.2	141.03	4	0 19 15.91	6 51 52.1	139.37
5	23 35 49.77	1 28 17.4	141.07	5	0 21 11.25	7 5 48.3	139.15
6	23 37 41.55	1 42 23.8	141.12	6	0 23 6.79	7 19 43.2	138.95
7	23 39 33.45	1 56 30.5	141.12	7	0 25 2.54	7 33 36.9	138.72
8	23 41 25.46	2 10 37.2	141.13	8	0 26 58.50	7 47 29.2	138.50
9	23 43 17.58	2 24 44.0	141.13	9	0 28 54.68	8 1 20.2	138.23
10	23 45 9.84	2 38 50.8	141.13	10	0 30 51.07	8 15 9.6	138.00
11	23 47 2.21	2 52 57.6	141.12	11	0 32 47.68	8 28 57.6	137.72
12	23 48 54.72	3 7 4.3	141.12	12	0 34 44.52	8 42 43.9	137.48
13	23 50 47.36	3 21 11.0	141.07	13	0 36 41.59	8 56 28.8	137.20
14	23 52 40.15	3 35 17.4	141.03	14	0 38 38.88	9 10 12.0	136.90
15	23 54 33.07	3 49 23.6	140.97	15	0 40 36.42	9 23 53.4	136.58
16	23 56 26.14	4 3 29.4	140.92	16	0 42 34.20	9 37 32.9	136.27
17	23 58 19.37	4 17 34.9	140.82	17	0 44 32.22	9 51 10.5	135.92
18	0 0 12.74	4 31 39.8	140.75	18	0 46 30.49	10 4 46.0	135.58
19	0 2 6.28	4 45 44.3	140.65	19	0 48 29.01	10 18 19.5	135.22
20	0 3 59.98	4 59 48.2	140.53	20	0 50 27.79	10 31 50.8	134.83
21	0 5 53.85	5 13 51.4	140.43	21	0 52 26.83	10 45 19.8	134.47
22	0 7 47.88	5 27 54.0	140.28	22	0 54 26.13	10 58 46.6	134.07
23	0 9 42.10	5 41 55.7	140.17	23	0 56 25.71	11 12 11.0	133.65
24	0 11 36.48	N. 5 55 56.7		24	0 58 25.55	N. 11 25 32.9	

PHASES OF THE MOON.

	^d ^h ^m
☾ Last Quarter - - - - -	8 2 12.7
● New Moon - - - - -	14 18 2.3
☽ First Quarter - - - - -	22 1 31.7
○ Full Moon - - - - -	30 4 18.6

	^d ^h
☾ Perigee - - - - -	12 19
☾ Apogee - - - - -	24 15

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o
1	Mars W.	107 6 56	3159	108 33 54	3153	110 1 0	3145	111 2
	Jupiter W.	92 39 55	2963	94 10 54	2956	95 42 2	2950	97 1
	Saturn W.	77 11 23	2935	78 42 58	2928	80 14 42	2920	81 4
	α Arietis E.	51 50 24	2946	50 19 3	2939	48 47 34	2934	47 1
	Aldebaran E.	84 12 13	2989	82 41 46	2982	81 11 10	2976	79 4
2	Jupiter W.	104 51 53	2907	106 24 3	2900	107 56 22	2893	109 2
	Saturn W.	89 28 16	2877	91 1 4	2870	92 34 2	2862	94
	α Aquilæ W.	59 6 49	3750	60 22 43	3715	61 39 14	3683	62 5
	α Arietis E.	39 36 13	2902	38 3 56	2897	36 31 33	2892	34 5
	Aldebaran E.	72 4 50	2938	70 33 20	2931	69 1 41	2926	67 5
3	Saturn W.	101 55 15	2816	103 29 22	2808	105 3 40	2800	106 3
	α Aquilæ W.	69 29 28	3523	70 49 27	3500	72 9 51	3479	73 3
	Fomalhaut W.	44 18 11	3598	45 36 48	3549	46 56 18	3502	48 1
	Aldebaran E.	59 49 14	2892	58 16 45	2887	56 44 10	2882	55 1
	Venus E.	110 36 20	3209	109 10 22	3201	107 44 14	3192	106 1
4	α Aquilæ W.	80 19 44	3376	81 42 28	3362	83 5 28	3349	84 5
	Fomalhaut W.	55 9 33	3284	56 34 3	3255	57 59 7	3228	59 5
	α Pegasi W.	32 32 48	3353	33 55 58	3294	35 20 16	3244	36 4
	Aldebaran E.	47 26 44	2861	45 53 35	2859	44 20 24	2858	42 4
	Pollux E.	89 13 33	2750	87 38 0	2741	86 2 15	2733	84 4
	Venus E.	99 3 34	3135	97 36 7	3126	96 8 29	3116	94 4
	SUN E.	140 14 20	3087	138 45 54	3076	137 17 15	3066	135 4
5	Fomalhaut W.	66 39 55	3092	68 8 15	3071	69 37 0	3053	71
	α Pegasi W.	44 4 50	3012	45 34 48	2984	47 5 21	2956	48 3
	Aldebaran E.	35 1 37	2877	33 28 49	2887	31 56 14	2900	30 1
	Pollux E.	76 23 35	2678	74 46 25	2669	73 9 3	2659	71 3
	Venus E.	87 18 23	3055	85 49 18	3044	84 20 0	3034	82 2
	SUN E.	128 20 57	3003	126 50 48	2993	125 20 26	2982	123 4
6	Fomalhaut W.	78 37 2	2955	80 8 11	2940	81 39 39	2927	83 1
	α Pegasi W.	56 19 41	2821	57 53 42	2802	59 28 7	2783	61
	Pollux E.	63 20 15	2601	61 41 21	2591	60 2 13	2581	58 5
	Venus E.	75 19 28	2966	73 48 33	2955	72 17 24	2944	70 4
	SUN E.	116 13 27	2916	114 41 28	2904	113 9 14	2892	111 3
7	Fomalhaut W.	90 54 11	2855	92 27 28	2843	94 1 0	2834	95 3
	α Pegasi W.	69 2 48	2633	70 39 51	2668	72 17 14	2652	73 5
	α Arietis W.	25 35 47	2569	27 15 25	2548	28 55 31	2530	30 3
	Pollux E.	50 2 39	2522	48 21 56	2511	46 40 58	2502	44 5
	Venus E.	63 5 18	2872	61 32 23	2860	59 59 13	2847	58 2
	SUN E.	103 50 34		6 33	2809	100 42 17	2796	99
8	α Pegasi W.	82 8 23		80 20 42		85 27 53	2545	87
	α Arietis W.	39 4 1				42 30 7	2409	44 1
	Pollux E.	36 30 4				5 51	2437	31 2
	Venus E.	50 34 30				5	2747	45 4
	SUN E.	91 11 0					498	86 2
9	α Arietis W.	52 55 9						
	Aldebaran W.	22 34 1						

MEAN TIME.
LUNAR DISTANCES.

's Name and position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
	° ' "		° ' "		° ' "		° ' "	
er W.	112 55 39	3131	114 23 11	3124	115 50 52	3116	117 18 42	3109
n W.	98 44 43	2935	100 16 17	2928	101 48 0	2921	103 19 52	2914
etis W.	83 18 36	2906	84 50 47	2899	86 23 7	2891	87 55 37	2884
aran E.	45 44 15	2923	44 12 25	2917	42 40 28	2912	41 8 24	2906
aran E.	78 9 35	2963	76 38 36	2957	75 7 29	2950	73 36 14	2943
er W.	111 1 28	2878	112 34 15	2871	114 7 11	2863	115 40 17	2856
n W.	95 40 27	2847	97 13 54	2839	98 47 31	2832	100 21 18	2824
uilæ W.	64 13 58	3623	65 32 7	3596	66 50 46	3569	68 9 54	3545
etis E.	33 26 31	2884	31 53 52	2882	30 21 10	2880	28 48 25	2878
aran E.	65 58 1	2914	64 26 0	2908	62 53 51	2903	61 21 36	2898
n W.	108 12 47	2784	109 47 36	2776	111 22 35	2767	112 57 46	2759
uilæ W.	74 51 48	3441	76 13 18	3423	77 35 8	3407	78 57 17	3391
dhaut W.	49 37 50	3419	50 59 45	3382	52 22 22	3347	53 45 39	3315
aran E.	53 38 41	2873	52 5 48	2870	50 32 51	2866	48 59 49	2864
s E.	104 51 25	3173	103 24 44	3164	101 57 52	3154	100 30 48	3146
uilæ W.	85 52 13	3324	87 15 57	3313	88 39 53	3303	90 4 1	3294
dhaut W.	60 50 49	3178	62 17 25	3155	63 44 28	3132	65 11 59	3111
gasi W.	38 11 51	3152	39 38 58	3113	41 6 52	3076	42 35 31	3043
aran E.	41 13 59	2859	39 40 47	2862	38 7 39	2865	36 34 35	2870
x E.	82 50 10	2715	81 13 50	2706	79 37 18	2696	78 0 33	2686
s E.	93 12 36	3096	91 44 22	3086	90 15 55	3075	88 47 15	3065
E.	134 19 20	3046	132 50 4	3035	131 20 34	3025	129 50 52	3014
dhaut W.	72 35 37	3018	74 5 28	3002	75 35 39	2985	77 6 11	2970
gasi W.	50 8 9	2907	51 40 19	2884	53 12 59	2863	54 46 6	2841
aran E.	28 51 57	2938	27 20 26	2965	25 49 30	3000	24 19 17	3044
x E.	69 53 40	2639	68 15 38	2630	66 37 24	2620	64 58 56	2610
s E.	81 20 45	3011	79 50 46	3001	78 20 34	2989	76 50 8	2978
E.	122 19 3	2960	120 48 0	2949	119 16 43	2938	117 45 12	2927
dhaut W.	84 43 25	2901	86 15 43	2887	87 48 18	2876	89 21 7	2865
gasi W.	62 38 11	2748	64 13 47	2731	65 49 46	2715	67 26 6	2699
x E.	56 43 17	2561	55 3 28	2551	53 23 25	2541	51 43 9	2531
s E.	69 14 23	2920	67 42 30	2908	66 10 21	2896	64 37 57	2884
E.	110 4 1	2869	108 31 2	2857	106 57 48	2845	105 24 19	2833
dhaut W.	97 8 40	2815	98 42 48	2808	100 17 6	2801	101 51 33	2793
gasi W.	75 33 1	2624	77 11 23	2610	78 50 5	2596	80 29 5	2583
etis W.	32 16 57	2497	33 58 15	2481	35 39 55	2465	37 21 57	2450
x E.	43 18 25	2483	41 36 48	2475	39 55 0	2466	38 12 59	2458
s E.	56 52 3	2822	55 18 4	2810	53 43 49	2798	52 9 18	2785
E.	97 32 56	2772	95 57 51	2760	94 22 31	2747	92 46 53	2735
gasi W.	88 48 32	2521	90 29 16	2510	92 10 16	2499	93 51 31	2488
etis W.	45 57 12	2382	47 41 13	2369	49 25 33	2355	51 10 12	2343
x E.	29 40 20	2428	27 57 25	2426	26 14 27	2426	24 31 29	2428
s E.	44 12 34	2723	42 36 24	2710	40 59 57	2697	39 23 13	2685
E.	84 44 41	2673	83 7 25	2661	81 29 53	2649	79 52 4	2637
etis W.	59 57 54	2283	61 44 19	2272	63 31 0	2261	65 17 57	2250
W.	29 2 55	2545	30 43 6	2506	32 24 10	2472	34 6 2	2441

MEAN TIME.									
LUNAR DISTANCES.									
Day of the Month.	Star's Name and Position.		Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
			° ' "		° ' "		° ' "		° ' "
9	Pollux	E.	22 48 34	2434	21 5 48	2444	19 23 16	2462	17 41
	Venus	E.	37 46 13	2673	36 8 57	2661	34 31 24	2649	32 53
	SUN	E.	78 13 59	2625	76 35 38	2613	74 57 0	2601	73 18
10	α Arietis	W.	67 5 10	2239	68 52 39	2230	70 40 22	2219	72 28
	Aldebaran	W.	35 48 38	2414	37 31 52	2389	39 15 43	2367	41 0
	Venus	E.	24 40 36	2581	23 1 15	2570	21 21 39	2561	19 41
	SUN	E.	64 59 49	2535	63 19 25	2525	61 38 47	2515	59 57
11	α Arietis	W.	81 31 40	2167	83 20 57	2160	85 10 25	2153	87 0
	Aldebaran	W.	49 48 48	2264	51 35 40	2251	53 22 52	2240	55 10
	SUN	E.	51 30 27	2465	49 48 24	2458	48 6 11	2450	46 23
12	Aldebaran	W.	64 11 21	2187	66 0 8	2182	67 49 3	2177	69 38
	Pollux	W.	21 44 33	2226	23 32 22	2205	25 20 42	2190	27 9
	SUN	E.	37 50 10	2425	36 7 11	2424	34 24 10	2424	32 41
17	SUN	W.	30 15 8	2759	31 50 30	2775	33 25 31	2790	35 0
	Mars	E.	42 53 35	2636	41 15 29	2653	39 37 46	2673	38 0
	Antares	E.	43 8 1	2408	41 24 37	2424	39 41 36	2441	37 58
	Jupiter	E.	48 31 57	2470	46 50 2	2488	45 8 32	2507	43 27
	Saturn	E.	62 39 4	2431	60 56 14	2449	59 13 49	2466	57 31
	α Aquilæ	E.	97 2 29	3039	95 33 4	3051	94 3 54	3065	92 35
18	SUN	W.	42 48 9	2893	44 20 37	2911	45 52 42	2928	47 24
	Antares	E.	29 31 57	2544	27 51 45	2561	26 11 57	2578	24 32
	Mars	E.	30 0 28	2789	28 25 46	2810	26 51 31	2831	25 17
	Jupiter	E.	35 8 53	2626	33 30 33	2648	31 52 43	2670	30 15
	Saturn	E.	49 7 58	2575	47 28 29	2593	45 49 24	2612	44 10
	α Aquilæ	E.	85 15 46	3172	83 49 3	3194	82 22 46	3215	80 56
19	SUN	W.	54 57 19	3036	56 26 47	3053	57 55 54	3071	59 24
	Saturn	E.	36 3 57	2727	34 27 53	2746	32 52 14	2766	31 17
	α Aquilæ	E.	73 54 52	3869	72 32 0	3898	71 9 41	3927	69 47
	Fomalhaut	E.	97 55 21	3051	96 26 11	3065	94 57 19	3079	93 28
20	SUN	W.	66 43 13	3171	68 9 57	3187	69 36 22	3203	71 2
	Saturn	E.	23 27 55	2899	21 55 35	2925	20 23 48	2954	18 52
	Fomalhaut	E.	86 10 32	3174	84 43 52	3191	83 17 32	3207	81 51
	α Pegasi	E.	107 51 41	2992	106 21 18	3004	104 51 10	3016	103 21
21	SUN	W.	78 8 43	3288	79 33 9	3300	80 57 21	3312	82 21
	Fomalhaut	E.	74 46 29	3311	73 22 30	3329	71 58 52	3347	70 35
	α Pegasi	E.	95 55 22	3084	94 26 53	3095	92 58 37	3105	91 30
22	SUN	W.	89 17 55	3376	90 40 39	3385	92 3 13	3393	93 25
	Antares	W.	21 0 59	2996	22 31 17	3004	24 1 25	3011	25 31
	Jupiter	W.	15 48 12	3217	17 14 1	3199	18 40 12	3186	20 6
	Fomalhaut	E.	63 44 37	3464	62 23 33	3486	61 2 53	3507	59 42
	α Pegasi	E.	84 13 27	3166	82 46 37	3175	81 19 58	3184	79 53
23	SUN	W.	100 15 36	3433	101 37 15	3439	102 58 48	3443	104 20
	Antares	W.	32 59 13	3048	34 28 27	3052	35 57 35	3056	37
	Mars	W.	29 19 14	3325	30 42 57	3327	32 6 37	3330	33
	Jupiter	W.	27 20 47	3158	28 47 46	3157	30 14 47	3157	31

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
9	Pollux E.	15 59 41	2531	14 19 11	2594	12 40 8	2694	11 3 20	2856
	Venus E.	31 15 31	2625	29 37 10	2614	27 58 34	2603	26 19 43	2591
	SUN E.	71 38 58	2579	69 59 34	2567	68 19 54	2556	66 39 59	2546
0	α Arietis W.	74 16 34	2200	76 5 1	2191	77 53 42	2183	79 42 35	2175
	Aldebaran W.	42 44 58	2326	44 30 19	2308	46 16 6	2293	48 2 16	2278
	Venus E.	18 1 47	2540	16 21 30	2531	14 41 0	2523	13 0 19	2516
	SUN E.	58 16 50	2497	56 35 32	2488	54 54 2	2480	53 12 20	2472
1	α Arietis W.	88 49 52	2140	90 39 50	2135	92 29 55	2130	94 20 9	2126
	Aldebaran W.	56 58 5	2219	58 46 5	2209	60 34 19	2202	62 22 44	2194
	SUN E.	44 41 18	2440	42 58 40	2435	41 15 55	2431	39 33 5	2428
2	Aldebaran W.	71 27 15	2169	73 16 30	2166	75 5 49	2164	76 55 11	2163
	Pollux W.	28 58 28	2166	30 47 47	2157	32 37 19	2151	34 27 1	2145
	SUN E.	30 58 6	2424	29 15 6	2427	27 32 10	2431	25 49 19	2437
7	SUN W.	36 34 31	2823	38 8 29	2840	39 42 5	2858	41 15 18	2875
	Mars E.	36 23 38	2711	34 47 12	2729	33 11 11	2750	31 35 37	2769
	Antares E.	36 16 47	2475	34 34 58	2492	32 53 34	2509	31 12 33	2527
	Jupiter E.	41 46 50	2545	40 6 39	2565	38 26 56	2585	36 47 40	2606
	Saturn E.	55 50 11	2502	54 9 0	2520	52 28 15	2538	50 47 54	2556
	α Aquilæ E.	91 6 28	3097	89 38 15	3115	88 10 23	3132	86 42 52	3152
8	SUN W.	48 55 45	2965	50 26 42	2982	51 57 17	3001	53 27 29	3018
	Antares E.	22 53 32	2613	21 14 54	2631	19 36 41	2647	17 58 50	2664
	Mars E.	23 44 22	2873	22 11 29	2897	20 39 6	2920	19 7 12	2944
	Jupiter E.	28 38 33	2717	27 2 15	2742	25 26 31	2767	23 51 20	2794
	Saturn E.	42 32 32	2650	40 54 45	2669	39 17 23	2688	37 40 27	2708
	α Aquilæ E.	79 31 32	3263	78 6 37	3288	76 42 12	3313	75 18 16	3341
9	SUN W.	60 53 3	3105	62 21 6	3123	63 48 48	3139	65 16 10	3153
	Saturn E.	29 42 17	2808	28 7 59	2829	26 34 9	2851	25 0 47	2874
	α Aquilæ E.	68 26 45	3491	67 6 11	3525	65 46 14	3559	64 26 55	3596
	Fomalhaut E.	92 0 28	3110	90 32 31	3125	89 4 52	3142	87 37 33	3157
0	SUN W.	72 28 17	3232	73 53 48	3247	75 19 2	3260	76 44 0	3273
	Saturn E.	17 22 6	3023	15 52 22	3068	14 23 33	3122	12 55 50	3193
	Fomalhaut E.	80 25 50	3241	79 0 29	3258	77 35 29	3275	76 10 48	3294
	α Pegasi E.	101 51 37	3039	100 22 13	3050	98 53 2	3061	97 24 5	3073
1	SUN W.	83 45 4	3335	85 8 35	3346	86 31 53	3357	87 54 59	3366
	Fomalhaut E.	69 12 40	3385	67 50 6	3403	66 27 53	3424	65 6 4	3444
	α Pegasi E.	90 2 44	3127	88 35 7	3137	87 7 42	3147	85 40 29	3156
2	SUN W.	94 47 53	3408	96 10 0	3415	97 31 59	3422	98 53 51	3428
	Antares W.	27 1 13	3026	28 30 54	3031	30 0 28	3038	31 29 54	3043
	Jupiter W.	21 33 16	3169	23 0 2	3165	24 26 53	3161	25 53 49	3159
	Fomalhaut E.	58 22 46	3553	57 3 21	3577	55 44 22	3604	54 25 52	3630
	α Pegasi E.	78 27 12	3202	77 1 5	3210	75 35 8	3218	74 9 20	3226
3	SUN W.			107 2 59	3453	108 24 16	3455	109 45 30	3458
	Antares W.			74 34	3065	41 53 26	3067	43 22 16	3068
	Mars W.			8	3338	37 40 46	3339	39 4 13	3339
	Jupiter V.				154	36 2 57	3154	37 30 1	3153

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
23	Fomalhaut E.	53 7 50	3659	51 50 19	3689	50 33 20	3720	49 16 54
	α Pegasi E.	72 43 42	3234	71 18 13	3242	69 52 53	3249	68 27 42
24	SUN W.	111 6 41	3460	112 27 50	3461	113 48 58	3460	115 10 7
	Antares W.	44 51 5	3070	46 19 51	3070	47 48 37	3070	49 17 23
	Mars W.	40 27 39	3340	41 51 4	3340	43 14 29	3340	44 37 54
	Jupiter W.	38 57 6	3152	40 24 13	3152	41 51 20	3149	43 18 30
	Saturn W.	25 30 17	3144	26 57 33	3138	28 24 56	3135	29 52 23
	Fomalhaut E.	43 4 27	3966	41 52 14	4021	40 40 55	4080	39 30 34
	α Pegasi E.	61 23 57	3294	59 59 38	3301	58 35 27	3308	57 11 22
25	SUN W.	121 55 48	3456	123 17 1	3454	124 38 16	3451	125 59 31
	Antares W.	56 41 24	3063	58 10 19	3061	59 39 17	3057	61 8 15
	Mars W.	51 35 18	3331	52 58 54	3327	54 22 34	3325	55 46 17
	Jupiter W.	50 34 54	3135	52 2 21	3132	53 29 52	3129	54 57 27
	Saturn W.	37 11 0	3109	38 38 59	3105	40 7 3	3100	41 35 13
	α Pegasi E.	50 13 42	3362	48 50 42	3374	47 27 56	3386	46 5 23
	α Arietis E.	91 20 17	3079	89 51 42	3075	88 23 2	3073	86 54 20
26	Antares W.	68 34 39	3032	70 4 12	3026	71 33 53	3021	73 3 40
	Mars W.	62 46 9	3296	64 10 25	3290	65 34 48	3284	66 59 18
	Jupiter W.	62 16 47	3099	63 44 58	3093	65 13 16	3087	66 41 42
	Saturn W.	48 57 40	3067	50 26 30	3061	51 55 28	3054	53 24 34
	α Arietis E.	79 29 37	3048	78 0 24	3043	76 31 4	3037	75 1 37
	Aldebaran E.	111 33 29	3108	110 5 28	3100	108 37 18	3092	107 8 59
27	Antares W.	80 34 36	2980	82 5 14	2973	83 36 1	2965	85 6 58
	Jupiter W.	74 5 54	3045	75 35 11	3037	77 4 38	3029	78 34 15
	Mars W.	74 3 49	3241	75 29 10	3233	76 54 40	3226	78 20 19
	Saturn W.	60 52 13	3010	62 22 14	3003	63 52 23	2994	65 22 43
	α Arietis E.	67 32 29	2998	66 2 14	2992	64 31 51	2985	63 1 19
	Aldebaran E.	99 45 10	3047	98 15 55	3039	96 46 31	3031	95 16 56
28	Antares W.	92 44 19	2914	94 16 20	2905	95 48 33	2896	97 20 57
	Jupiter W.	86 4 55	2978	87 35 36	2969	89 6 28	2960	90 37 31
	Mars W.	85 31 14	3171	86 57 58	3162	88 24 53	3153	89 51 59
	Saturn W.	72 57 3	2943	74 28 28	2933	76 0 5	2924	77 31 54
	α Arietis E.	55 26 12	2938	53 54 41	2930	52 23 0	2922	50 51 9
	Aldebaran E.	87 46 24	2979	86 15 45	2970	84 44 55	2961	83 13 54
29	Jupiter W.	98 15 45	2903	99 48 0	2893	101 20 28	2884	102 53 8
	Mars W.	97 10 29	3092	98 38 48	3083	100 7 19	3073	101 36 2
	Saturn W.	85 13 56	2866	86 46 58	2858	88 20 11	2847	89 53 38
	α Aquilæ W.	56 14 6	3790	57 29 19	3746	58 45 18	3707	60 1 58
	α Arietis E.	43 9 21	2874	41 36 29	2867	40 3 28	2860	38 30 18
	Aldebaran E.	75 36 4	2909	74 3 57	2901	72 31 39	2892	70 59 10
30	Jupiter W.	110 39 28	2827	112 13 21	2819	113 47 26	2808	115 21 43
	Mars W.	109 2 46	3011	110 32 45	3001	112 2 56	2991	113 23 10
	Saturn W.	97 43 56	2790	99 18 37	2780	100 53 3		
	α Aquilæ W.	66 34 39	3512	67 54 50	3485	69 15		
	α Arietis E.	30 42 27	2827	29 8 34	2824	27 34		
	Aldebaran E.	63 14 9	2843	61 40 39	2838	60 7		

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u	
3	Fomalhaut E.	48 1 4	3790	46 45 51	3829	45 31 19	3871	44 17 30	3917
	α Pegasi E.	67 2 40	3264	65 37 46	3272	64 13 2	3278	62 48 25	3286
4	SUN W.	116 31 13	3462	117 52 20	3461	119 13 28	3460	120 34 37	3458
	Antares W.	50 46 8	3069	52 14 55	3069	53 43 43	3068	55 12 32	3065
	Mars W.	46 1 19	3339	47 24 46	3337	48 48 15	3336	50 11 45	3333
	Jupiter W.	44 45 41	3146	46 12 55	3143	47 40 12	3142	49 7 31	3138
	Saturn W.	31 19 57	3126	32 47 35	3122	34 15 18	3118	35 43 6	3113
	Fomalhaut E.	38 21 16	4219	37 13 8	4300	36 6 15	4389	35 0 44	4491
	α Pegasi E.	55 47 33	3325	54 23 50	3333	53 0 16	3343	51 36 54	3352
5	SUN W.	127 20 57	3446	128 42 22	3441	130 3 52	3438	131 25 26	3433
	Antares W.	62 37 24	3050	64 6 35	3046	65 35 51	3042	67 5 12	3037
	Mars W.	57 10 5	3316	58 33 58	3312	59 57 56	3307	61 21 59	3301
	Jupiter W.	56 25 8	3119	57 52 54	3115	59 20 45	3110	60 48 43	3105
	Saturn W.	43 3 30	3090	44 31 52	3084	46 0 21	3078	47 28 57	3073
	α Pegasi E.	44 43 5	3414	43 21 4	3431	41 59 23	3449	40 38 2	3470
	α Arietis E.	85 25 33	3066	83 56 42	3062	82 27 46	3057	80 58 44	3053
6	Antares W.	74 33 35	3008	76 3 38	3002	77 33 49	2995	79 4 8	2988
	Mars W.	68 23 56	3271	69 48 41	3264	71 13 35	3257	72 38 37	3248
	Jupiter W.	68 10 15	3074	69 38 57	3067	71 7 47	3060	72 36 46	3052
	Saturn W.	54 53 48	3040	56 23 11	3033	57 52 43	3026	59 22 23	3018
	α Arietis E.	73 32 3	3025	72 2 21	3019	70 32 32	3013	69 2 35	3006
	Aldebaran E.	105 40 32	3078	104 11 55	3071	102 43 10	3063	101 14 15	3066
7	Antares W.	86 38 5	2948	88 9 23	2941	89 40 50	2932	91 12 29	2923
	Jupiter W.	80 4 1	3012	81 33 59	3005	83 4 6	2995	84 34 25	2986
	Mars W.	79 46 9	3208	81 12 9	3199	82 38 20	3189	84 4 42	3181
	Saturn W.	66 53 13	2978	68 23 54	2969	69 54 46	2960	71 25 49	2951
	α Arietis E.	61 30 37	2969	59 59 45	2961	58 28 44	2954	56 57 33	2946
	Aldebaran E.	93 47 11	3014	92 17 15	3006	90 47 9	2997	89 16 52	2988
8	Antares W.	98 53 32	2877	100 26 20	2868	101 59 20	2859	103 32 31	2849
	Jupiter W.	92 8 46	2941	93 40 13	2931	95 11 52	2922	96 43 43	2913
	Mars W.	91 19 17	3133	92 46 47	3123	94 14 29	3113	95 42 23	3103
	Saturn W.	79 3 54	2905	80 36 6	2895	82 8 31	2886	83 41 8	2877
	α Arietis E.	49 19 8	2905	47 46 56	2898	46 14 34	2891	44 42 3	2882
	Aldebaran E.	81 42 42	2944	80 11 19	2935	78 39 45	2927	77 8 0	2918
9	Jupiter W.	104 26 0	2866	105 59 3	2856	107 32 19	2846	109 5 47	2836
	Mars W.	103 4 58	3052	104 34 6	3042	106 3 27	3032	107 33 0	3022
	Saturn W.	91 27 16	2828	93 1 8	2819	94 35 11	2809	96 9 27	2799
	α Aquilæ W.	61 19 18	3635	62 37 15	3600	63 55 49	3568	65 14 58	3539
	α Arietis E.	36 56 59	2847	35 23 32	2841	33 49 57	2835	32 16 15	2831
	Aldebaran E.	69 26 30	2876	67 53 40	2868	66 20 40	2859	64 47 29	2852
10	Jupiter W.	116 56 12	2790	118 30 53	2781	120 5 46	2772	121 40 50	2763
	N	115 3 55	2971	116 34 44	2962	118 5 44	2952	119 36 58	2943
		104 3 55	2752	105 39 26	2743	107 15 9	2734	108 51 4	2725
		11 58 17	3415	73 20 17	3393	74 42 42	3378	76 5 29	3354
		26 40	2824	22 52 44	2830	21 18 55	2838	19 45 16	2852
		9 15	2818	55 25 11	2812	53 50 59	2806	52 16 39	2802

CONFIGURATIONS OF THE SATELLITES OF JUPITER

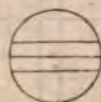
At 7^h 30^m, MEAN TIME.

Day of the Month.	<i>West.</i>				<i>East.</i>			
1				·3 ○	1°	2°		4°
2				·1	2° ○		4° ·3	
3			·2	4° ○	1°			3°
4			4°	·1 ○	·2	3°		
5		4°		3°	1° ○	2°		
6		4°	3°	2°	○	·1		
7	·4		·3	1° ·2	○			
8	·4			·3	○	·1	·2	
9		·4		·1	○		·3	
10			·4	·2	○	1°		3°
11				·4 ·1	○	·2		3°
12				3°	○	·4 ·2		
13			3°	2°	○			·4
14			·3	·2 ·1	○			·4
15				·3	○	·1	·2	·4
16				·1	○ 2°	·3		4°
17				·2	○	1°	·3	4°
18	·2 ●			·1	○		3°	4°
19					○ 1°	4° ·2		
20			3°	2° 4°	○			
21			·3 4°	·2	1° ○			
22		4°		·3	○	·1	·2	
23		4°		1°	○	2° ·3		
24	·4		2°		○	1°		·3
25	·2 ●	·4		·1	○		3°	
26		·4			○ 3°	·1	·2	
27			·4 ·3	2° ·1	○			
28			·3	·2	·4 ○			
29				·3	○	·1	·2 ·4	
30	·3 ●			1°	○	2°		·4

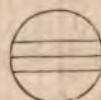
This Table represents, at 7^h 30^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the page, the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of the Satellites' motions, which are in all cases to be considered as *towards the numerals*. When a Satellite is at its greatest elongation, the point is placed above or below the centre of the numeral. A white circle (○) at the left or right hand of the page, denotes that the Satellite placed by the side is on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, or in the *shadow* of Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

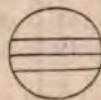
SATELLITE.	Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
		h m s	h m s	
I.	2	17 4 20.2	3 52 59.4	Em.
	4	11 33 4.3	22 28 42.1	Em.
	6	6 1 53.0	17 4 29.5	Em.
	8	0 30 36.7	11 40 11.9	Em.
	9	18 59 22.8	6 15 56.7	Em.
	11	13 28 6.6	0 51 39.3	Em.
	13*	7 56 54.6	19 27 26.0	Em.
	15	2 25 38.1	14 3 8.1	Em.
	16	20 54 23.5	8 38 52.2	Em.
	18	15 23 6.8	3 14 34.3	Em.
	20	9 51 54.0	21 50 20.1	Em.
	22	4 20 37.3	16 26 2.1	Em.
	23	22 49 21.7	11 1 45.2	Em.
	25	17 18 4.6	5 37 26.8	Em.
	27	11 46 50.7	0 13 11.6	Em.
	29	6 15 33.5	18 48 53.0	Em.
I.	4	1 4 6.2	11 58 0.7	Im.
	4	3 40 25.0	14 34 45.2	Em.
	7	14 22 54.0	1 30 49.5	Im.
	7	16 59 26.4	4 7 47.5	Em.
	11	6 17 47.5	17 40 9.5	Em.
	14	19 36 54.7	7 13 17.6	Em.
	18	8 55 17.6	20 45 41.3	Em.
	21	22 14 30.2	10 18 54.8	Em.
	25	11 32 53.9	23 51 19.4	Em.
	29	0 52 11.2	13 24 37.6	Em.
II.	1	14 21 49.8	1 6 5.8	Im.
	1	17 2 21.6	3 47 3.9	Em.
	8	18 21 39.7	5 34 10.9	Im.
	8	21 3 4.6	8 16 2.4	Em.
	15	22 21 11.0	10 1 57.4	Im.
	16	1 3 29.3	12 44 42.3	Em.
	23	2 21 6.4	14 30 8.1	Im.
	23	5 4 17.1	17 13 45.6	Em.
	30	6 20 21.6	18 57 38.5	Im.
	30	9 4 26.7	21 42 10.6	Em.



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i *

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APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.			TRANSITS OF SATELLITES.			TRANSITS OF SHADOWS.		
	Immersion.	Emersion.		Ingress.	Egress.		Ingress.	Egress.	
I.	d h m	d h m		d h m	d h m		d h m	d h m	
	2 0 22			1 2 58	1 5 13		1 4 16	1 6 10	
	4* 18 58			3 21 34	3 23 49		3 22 52	3 24 10	
	6 13 33			5 16 10	5 18 25		5 17 28	5 19 10	
	7 8 9			6 10 46	7 13 1		7 12 4	7 14 10	
	9 2 45	In		8 5 22	8 7 37		8 6 39	8 9 10	
	11 21 21			10 23 58	10 2 13		10 1 15	10 3 10	
	13 15 57			12 18 34	12 20 49		12 19 51	12 22 10	
	14 10 33	the		14 13 10	14 15 25		14 14 27	14 16 10	
	16 5 9			15 7 46	15 10 1		15 9 3	15 11 10	
	18 23 46			17 2 22	17 4 38		17 3 38	17 5 10	
	20 18 22	Shadow.		19 20 59	19 23 14		19 22 14	19 24 10	
	22 12 58			21 15 35	21 17 50		21 16 50	21* 19 10	
	23 7 34			22 10 11	23 12 27		22 11 26	23 13 10	
	25 2 11			24 4 48	24 7 3		24 6 2	24 8 10	
	27 20 47			26 23 24	26 1 40		26 0 37	26 2 10	
	29 15 24			28 18 1	28 20 16		28* 19 13	28 21 10	
	30 10 0			30 12 37	30 14 53		30 13 49	30 16 10	
II.	3 9 19	4 11 57		2 15 2	2 17 40		2 17 39	2 20 10	
	7 22 52	7 1 31		5 4 34	5 7 12		5 7 11	5 9 10	
	11 12 25			9 18 6	9 20 45		9 20 43	9 23 10	
	14 1 59	In		12 7 39	12 10 18		12 10 15	13 12 10	
	18 15 33	the		16 21 12	16 23 51		16 23 46	16 26 10	
	21 5 8			19 10 46	20 13 25		20 13 18	20 15 10	
	25 18 43	Shadow.		23 0 20	23 2 59		23 2 50	23 5 10	
	28 8 19			27 13 54	27 16 34		27 16 21	27* 19 10	
				30 3 29	30 6 9		30 5 53	30 8 10	
III.	1 19 45	1 22 35		4 10 5	5 12 56		5 15 20	5 18 10	
	8 0 14	8 3 5		12 14 35	12 17 28		12 19 48	12 22 10	
	15 4 47	15 7 39		19* 19 10	19 22 3		19 0 15	19 3 10	
	22 9 23	23 12 17		26 23 48	26 2 42		26 4 43	26 7 10	
	30 14 3	30 16 57							

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h .809326. Days.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D				
					^h ^m ^s			
1	+1.2423	-0.8570	+9.9788	-0.7812	13 15 54.91	162	243	.665
2	1.2450	0.8371	9.9799	0.7816	13 11 59.00	163	244	.668
3	1.2476	0.8160	9.9809	0.7819	13 8 3.09	164	245	.671
4	+1.2500	-0.7937	+9.9819	-0.7822	13 4 7.18	165	246	.674
5	1.2523	0.7701	9.9829	0.7825	13 0 11.28	166	247	.676
6	1.2545	0.7449	9.9839	0.7827	12 56 15.37	167	248	.679
7	+1.2565	-0.7181	+9.9849	-0.7829	12 52 19.46	168	249	.682
8	1.2584	0.6894	9.9859	0.7831	12 48 23.55	169	250	.684
9	1.2602	0.6584	9.9869	0.7832	12 44 27.64	170	251	.687
0	+1.2618	-0.6250	+9.9879	-0.7833	12 40 31.73	171	252	.690
1	1.2633	0.5885	9.9888	0.7833	12 36 35.83	172	253	.693
2	1.2647	0.5486	9.9898	0.7833	12 32 39.92	173	254	.695
3	+1.2659	-0.5045	+9.9907	-0.7833	12 28 44.01	174	255	.698
4	1.2670	0.4552	9.9916	0.7832	12 24 48.11	175	256	.701
5	1.2680	0.3994	9.9926	0.7831	12 20 52.20	176	257	.704
6	+1.2688	-0.3351	+9.9935	-0.7829	12 16 56.29	177	258	.706
7	1.2696	0.2595	9.9944	0.7827	12 13 0.38	178	259	.709
8	1.2702	0.1677	9.9953	0.7824	12 9 4.48	179	260	.712
9	+1.2706	-0.0509	+9.9963	-0.7821	12 5 8.57	180	261	.715
0	1.2710	9.8903	9.9972	0.7817	12 1 12.66	181	262	.717
1	1.2712	9.6324	9.9981	0.7813	11 57 16.75	182	263	.720
2	+1.2713	-8.9073	+9.9990	-0.7809	11 53 20.85	183	264	.723
3	1.2713	+9.4274	9.9999	0.7804	11 49 24.94	184	265	.726
4	1.2711	9.7896	0.0008	0.7798	11 45 29.03	185	266	.728
5	+1.2708	+9.9843	+0.0017	-0.7792	11 41 33.13	186	267	.731
6	1.2704	0.1182	0.0026	0.7786	11 37 37.22	187	268	.734
7	1.2699	0.2204	0.0035	0.7779	11 33 41.31	188	269	.736
8	+1.2692	+0.3029	+0.0044	-0.7772	11 29 45.40	189	270	.739
9	1.2684	0.3722	0.0053	0.7764	11 25 49.49	190	271	.742
0	1.2674	0.4319	0.0062	0.7756	11 21 53.59	191	272	.745
1	+		0071	-0.7747	11 17 57.68	192	273	.747

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.	
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.			
		h m s	s	° ' "	"	m s	m s	
Frid.	1	12 29 48	36	9°064	S. 3 13 17	58 24	1 4 31	10 20 89
Sat.	2	12 33 25	89	9°077	3 36 34	58 14	1 4 36	10 39 86
Sun.	3	12 37 3	74	9°092	3 59 50	58 03	1 4 41	10 58 51
Mon.	4	12 40 41	94	9°107	4 23 3	57 90	1 4 46	11 16 81
Tues.	5	12 44 20	51	9°123	4 46 12	57 76	1 4 51	11 34 75
Wed.	6	12 47 59	46	9°140	5 9 18	57 60	1 4 57	11 52 31
Thur.	7	12 51 38	82	9°158	5 32 21	57 43	1 4 63	12 9 46
Frid.	8	12 55 18	62	9°177	5 55 19	57 25	1 4 69	12 26 17
Sat.	9	12 58 58	86	9°196	6 18 13	57 04	1 4 75	12 42 43
Sun.	10	13 2 39	57	9°217	6 41 2	56 82	1 4 82	12 58 23
Mon.	11	13 6 20	77	9°238	7 3 46	56 59	1 4 89	13 13 54
Tues.	12	13 10 2	47	9°260	7 26 24	56 33	1 4 96	13 28 35
Wed.	13	13 13 44	70	9°282	7 48 56	56 06	1 5 04	13 42 64
Thur.	14	13 17 27	46	9°305	8 11 21	55 77	1 5 12	13 56 40
Frid.	15	13 21 10	78	9°328	8 33 40	55 47	1 5 20	14 9 60
Sat.	16	13 24 54	65	9°352	8 55 51	55 15	1 5 28	14 22 25
Sun.	17	13 28 39	09	9°377	9 17 55	54 81	1 5 37	14 34 32
Mon.	18	13 32 24	14	9°402	9 39 50	54 46	1 5 46	14 45 80
Tues.	19	13 36 9	79	9°428	10 1 37	54 08	1 5 55	14 56 67
Wed.	20	13 39 56	06	9°454	10 23 15	53 70	1 5 64	15 6 93
Thur.	21	13 43 42	96	9°481	10 44 44	53 29	1 5 73	15 16 56
Frid.	22	13 47 30	50	9°508	11 6 3	52 87	1 5 83	15 25 55
Sat.	23	13 51 18	70	9°537	11 27 12	52 44	1 5 93	15 33 88
Sun.	24	13 55 7	59	9°565	11 48 10	51 98	1 6 03	15 41 53
Mon.	25	13 58 57	16	9°595	12 8 58	51 51	1 6 13	15 48 49
Tues.	26	14 2 47	44	9°625	12 29 34	51 02	1 6 24	15 54 74
Wed.	27	14 6 38	45	9°655	12 49 59	50 53	1 6 35	16 0 28
Thur.	28	14 10 30	18	9°687	13 10 11	50 01	1 6 46	16 5 08
Frid.	29	14 14 22	68	9°720	13 30 12	49 48	1 6 57	16 9 13
Sat.	30	14 18 15	95	9°752	13 49 59	48 93	1 6 68	16 12 44
Sun.	31	14 22 10	00	9°785	14 9 34	48 37	1 6 79	16 1
Mon.	32	14 26 4	84		S. 14 28 54	9	1 6 90	16

* Mean Time of the Semidiameter passing may be found by subtracting 0^m18 from the

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be added to Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
id.	1	12 29 49.92	S. 3 13 27.3	16 0.6	10 21.03	12 40 10.95
t.	2	12 33 27.50	3 36 45.3	16 0.9	10 40.00	12 44 7.50
en.	3	12 37 5.41	4 0 0.9	16 1.2	10 58.65	12 48 4.06
on.	4	12 40 43.65	4 23 13.9	16 1.5	11 16.95	12 52 0.61
res.	5	12 44 22.27	4 46 23.8	16 1.7	11 34.89	12 55 57.16
ed.	6	12 48 1.27	5 9 30.2	16 2.0	11 52.45	12 59 53.72
aur.	7	12 51 40.67	5 32 32.9	16 2.3	12 9.60	13 3 50.27
id.	8	12 55 20.52	5 55 31.5	16 2.6	12 26.31	13 7 46.82
t.	9	12 59 0.81	6 18 25.6	16 2.8	12 42.57	13 11 43.38
en.	10	13 2 41.56	6 41 14.8	16 3.1	12 58.37	13 15 39.93
on.	11	13 6 22.80	7 3 58.7	16 3.4	13 13.68	13 19 36.49
res.	12	13 10 4.55	7 26 36.8	16 3.6	13 28.49	13 23 33.04
ed.	13	13 13 46.82	7 49 9.0	16 3.9	13 42.78	13 27 29.59
aur.	14	13 17 29.62	8 11 34.6	16 4.2	13 56.53	13 31 26.15
id.	15	13 21 12.98	8 33 53.4	16 4.5	14 9.73	13 35 22.70
t.	16	13 24 56.89	8 56 4.7	16 4.7	14 22.37	13 39 19.26
en.	17	13 28 41.37	9 18 8.4	16 5.0	14 34.44	13 43 15.81
on.	18	13 32 26.45	9 40 4.0	16 5.3	14 45.91	13 47 12.36
res.	19	13 36 12.14	10 1 51.0	16 5.6	14 56.78	13 51 8.92
ed.	20	13 39 58.44	10 23 29.1	16 5.8	15 7.04	13 55 5.47
aur.	21	13 43 45.37	10 44 57.9	16 6.1	15 16.66	13 59 2.03
id.	22	13 47 32.94	11 6 16.9	16 6.4	15 25.64	14 2 58.58
t.	23	13 51 21.17	11 27 25.8	16 6.6	15 33.96	14 6 55.14
en.	24	13 55 10.09	11 48 24.3	16 6.9	15 41.60	14 10 51.69
on.	25	13 58 59.69	12 9 11.9	16 7.2	15 48.56	14 14 48.24
res.	26	14 2 49.99	12 29 48.1	16 7.4	15 54.81	14 18 44.80
ed.	27	14 6 41.02	12 50 12.8	16 7.7	16 0.34	14 22 41.35
aur.	28	14 10 32.78	13 10 25.4	16 8.0	16 5.13	14 26 37.91
id.	29	14 14 25.29	13 30 25.6	16 8.2	16 9.17	14 30 34.46
t.			13 50 13.0	16 8.5	16 12.44	14 34 31.02
			14 9 47.2	16 8.7	16 14.93	14 38 27.57
				16 9.0	16 16.62	14 42 24.13

* assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Parallax.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	188 7 17.4	N. 0° 34'	0.0001224	15 21.5	15 25.8	56 21.8	56 37.7
2	189 6 22.6	0° 36'	9.9999979	15 29.9	15 34.1	56 52.6	57 7.7
3	190 5 30.0	0° 35'	9.9998738	15 38.0	15 41.9	57 22.2	57 36.0
4	191 4 39.7	0° 31'	9.9997502	15 45.6	15 49.1	57 49.9	58 2.2
5	192 3 51.7	0° 24'	9.9996269	15 52.4	15 55.7	58 15.1	58 27.7
6	193 3 5.9	0° 14'	9.9995040	15 58.7	16 1.4	58 38.0	58 48.8
7	194 2 22.4	N. 0° 03'	9.9993814	16 4.0	16 6.4	58 57.6	59 6.6
8	195 1 41.4	S. 0° 09'	9.9992589	16 8.5	16 10.3	59 14.1	59 20.0
9	196 1 2.7	0° 22'	9.9991364	16 11.8	16 12.9	59 26.2	59 30.0
10	197 0 26.3	0° 36'	9.9990140	16 13.4	16 13.5	59 32.2	59 32.2
11	197 59 52.2	0° 48'	9.9988915	16 13.0	16 11.9	59 30.8	59 26.0
12	198 59 20.3	0° 58'	9.9987689	16 10.2	16 7.7	59 20.2	59 11.1
13	199 58 50.7	0° 66'	9.9986460	16 4.6	16 0.9	58 59.8	58 46.0
14	200 58 23.3	0° 72'	9.9985228	15 56.5	15 51.6	58 30.0	58 12.0
15	201 57 58.0	0° 75'	9.9983994	15 46.5	15 40.9	57 53.3	57 32.0
16	202 57 34.6	0° 75'	9.9982758	15 35.1	15 29.2	57 11.6	56 50.0
17	203 57 13.1	0° 72'	9.9981521	15 23.4	15 17.7	56 28.6	56 7.0
18	204 56 53.6	0° 66'	9.9980283	15 12.1	15 7.0	55 47.3	55 28.0
19	205 56 35.9	0° 56'	9.9979045	15 2.2	14 58.0	55 10.9	54 55.0
20	206 56 20.0	0° 45'	9.9977810	14 54.4	14 51.3	54 42.1	54 31.0
21	207 56 5.8	0° 33'	9.9976578	14 49.0	14 47.3	54 22.3	54 16.0
22	208 55 53.3	0° 19'	9.9975352	14 46.4	14 46.2	54 12.7	54 12.0
23	209 55 42.4	S. 0° 05'	9.9974133	14 46.7	14 47.9	54 13.9	54 18.0
24	210 55 33.3	N. 0° 09'	9.9972921	14 49.8	14 52.3	54 25.2	54 34.0
25	211 55 25.9	0° 21'	9.9971718	14 55.4	14 59.1	54 46.0	54 59.0
26	212 55 20.1	0° 31'	9.9970527	15 3.3	15 7.8	55 14.7	55 31.0
27	213 55 16.1	0° 40'	9.9969349	15 12.7	15 17.8	55 49.4	56 3.0
28	214 55 13.8	0° 45'	9.9968184	15 23.1	15 28.4	56 27.5	56 47.0
29	215 55 13.4	0° 48'	9.9967031	15 33.7	15 38.8	57 6.4	57 23.0
30	216 55 14.9	0° 47'	9.9965899	15 43.7	15 48.4	57 43.2	58 6.0
31	217 55 18.3	0° 44'	9.9964780	15 52.7	15 56.5	58 16.1	58 3.0
32	218 55 23.6	N. 0° 38'	9.9963677	15 59.9	16 2.7	58 42.4	

MEAN TIME.

THE MOON'S

Day of the Week.	Day of the Month.	THE MOON'S							
		Longitude.		Latitude.		Age.	Meridian		
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.		
Frid.	1	17° 51' 33" 7	24° 21' 57" 7	N. 46° 44' 0	N. 45° 11' 1	16 ^d 2	12 ^h 41 ^m 9		
Sat.	2	30 55 46 0	37 32 47 6	5 1 49 5	5 3 28 0	17 2	13 30 8		
Sun.	3	44 12 51 8	50 55 47 5	5 1 0 8	4 54 22 9	18 2	14 23 6		
Mon.	4	57 41 23 0	64 29 28 9	4 43 36 6	4 28 45 2	19 2	15 20 2		
Tues.	5	71 19 55 6	78 12 36 1	4 9 57 7	3 47 26 6	20 2	16 19 7		
Wed.	6	85 7 24 0	92 4 14 8	3 21 28 5	2 52 23 0	21 2	17 20 3		
Thur.	7	99 3 4 9	106 3 50 8	2 20 34 2	1 46 28 5	22 2	18 19 7		
Frid.	8	113 6 28 6	120 10 53 5	N. 1 10 36 8	N. 0 33 31 1	23 2	19 16 5		
Sat.	9	127 16 58 7	134 24 33 2	S. 0 4 13 9	S. 0 42 1 3	24 2	20 10 3		
Sun.	10	141 33 23 0	148 43 8 5	1 19 13 3	1 55 13 2	25 2	21 1 4		
Mon.	11	155 53 25 9	163 3 46 2	2 29 23 6	3 1 9 4	26 2	21 50 8		
Tues.	12	170 13 35 4	177 22 15 4	3 29 58 5	3 55 22 5	27 2	22 39 5		
Wed.	13	184 29 6 5	191 33 26 9	4 16 58 8	4 34 27 3	28 2	23 28 6		
Thur.	14	198 34 35 9	205 31 56 2	4 47 36 9	4 56 21 5	29 2	♂		
Frid.	15	212 24 53 4	219 12 59 6	5 0 40 4	5 0 37 8	0 8	0 18 9		
Sat.	16	225 55 53 1	232 33 19 8	4 56 24 1	4 48 11 8	1 8	1 10 9		
Sun.	17	239 5 12 9	245 31 34 5	4 36 18 0	4 21 0 8	2 8	2 4 3		
Mon.	18	251 52 32 7	258 8 23 8	4 2 40 0	3 41 35 5	3 8	2 58 3		
Tues.	19	264 19 30 1	270 26 18 3	3 18 8 0	2 52 37 8	4 8	3 51 7		
Wed.	20	276 29 20 6	282 29 12 1	2 25 24 2	1 56 46 6	5 8	4 43 3		
Thur.	21	288 26 31 0	294 21 57 9	1 27 3 1	S. 0 56 31 5	6 8	5 32 5		
Frid.	22	300 16 14 0	306 10 1 6	S. 0 25 29 0	N. 0 5 47 3	7 8	6 18 9		
Sat.	23	312 4 2 3	317 58 57 6	N. 0 37 0 4	1 7 53 7	8 8	7 2 8		
Sun.	24	323 55 28 2	329 54 11 1	1 38 9 4	2 7 29 9	9 8	7 45 0		
Mon.	25	335 55 43 2	342 0 35 9	2 35 37 5	3 2 12 3	10 8	8 26 3		
Tues.	26	348 9 18 9	354 22 15 3	3 26 55 0	3 49 25 9	11 8	9 7 7		
Wed.	27	0 39 44 5	7 1 59 3	4 9 24 6	4 26 31 1	12 8	9 50 3		
Thur.	28	13 29 6 8	20 1 7 1	4 40 25 8	4 50 50 6	13 8	10 35 2		
Frid.	29	26 37 54 6	33 19 16 4	4 57 29 3	5 0 7 5	14 8	11 23 5		
Sat.	30	40 4 55 0	46 54 27 6	4 58 36 7	4 52 48 3	15 8	12 15 9		
Sun.	31	54 27 1	60 43 24 8	4 42 42 3	4 28 21 4	16 8	13 12 6		
				12 2 N. 4 9 54 6	N. 3 47 35 1	17 8	14 12 7		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
FRIDAY 1.				SUNDAY 3.		
0	^h ^m ^s 58 25.55	[°] ['] ["] N.11 25 32.9	["] 133.25	0	^h ^m ^s 2 40 37.42	[°] ['] ["] N.20 54 12.1
1	1 0 25.67	11 38 52.4	132.82	1	2 42 54.01	21 3 58.2
2	1 2 26.07	11 52 9.3	132.38	2	2 45 10.98	21 13 37.7
3	1 4 26.75	12 5 23.6	131.92	3	2 47 28.34	21 23 10.6
4	1 6 27.71	12 18 35.1	131.47	4	2 49 46.07	21 32 36.9
5	1 8 28.97	12 31 43.9	130.98	5	2 52 4.19	21 41 56.4
6	1 10 30.51	12 44 49.8	130.48	6	2 54 22.68	21 51 9.0
7	1 12 32.36	12 57 52.7	129.98	7	2 56 41.56	22 0 14.7
8	1 14 34.50	13 10 52.6	129.47	8	2 59 0.81	22 9 13.4
9	1 16 36.95	13 23 49.4	128.95	9	3 1 20.44	22 18 4.9
10	1 18 39.70	13 36 43.1	128.38	10	3 3 40.45	22 26 49.3
11	1 20 42.76	13 49 33.4	127.85	11	3 6 0.83	22 35 26.4
12	1 22 46.13	14 2 20.5	127.28	12	3 8 21.58	22 43 56.1
13	1 24 49.82	14 15 4.2	126.70	13	3 10 42.71	22 52 18.4
14	1 26 53.82	14 27 44.4	126.12	14	3 13 4.21	23 0 33.2
15	1 28 58.15	14 40 21.1	125.50	15	3 15 26.08	23 8 40.4
16	1 31 2.80	14 52 54.1	124.88	16	3 17 48.31	23 16 39.9
17	1 33 7.78	15 5 23.4	124.23	17	3 20 10.92	23 24 31.7
18	1 35 13.09	15 17 48.8	123.60	18	3 22 33.88	23 32 15.6
19	1 37 18.73	15 30 10.4	122.93	19	3 24 57.20	23 39 51.5
20	1 39 24.71	15 42 28.0	122.27	20	3 27 20.89	23 47 19.4
21	1 41 31.02	15 54 41.6	121.58	21	3 29 44.92	23 54 39.3
22	1 43 37.68	16 6 51.1	120.87	22	3 32 9.31	24 1 50.9
23	1 45 44.68	N.16 18 56.3	120.15	23	3 34 34.05	N.24 8 54.3
SATURDAY 2.				MONDAY 4.		
0	1 47 52.02	N.16 30 57.2	119.42	0	3 36 59.13	N.24 15 49.4
1	1 49 59.72	16 42 53.7	118.67	1	3 39 24.56	24 22 36.0
2	1 52 7.76	16 54 45.7	117.92	2	3 41 50.33	24 29 14.2
3	1 54 16.16	17 6 33.2	117.15	3	3 44 16.44	24 35 43.8
4	1 56 24.92	17 18 16.1	116.37	4	3 46 42.87	24 42 4.8
5	1 58 34.04	17 29 54.3	115.55	5	3 49 9.64	24 48 17.0
6	2 0 43.51	17 41 27.6	114.75	6	3 51 36.73	24 54 20.5
7	2 2 53.34	17 52 56.1	113.92	7	3 54 4.14	25 0 15.1
8	2 5 3.54	18 4 19.6	113.08	8	3 56 31.86	25 6 0.8
9	2 7 14.11	18 15 38.1	112.22	9	3 58 59.90	25 11 37.5
10	2 9 25.04	18 26 51.4	111.37	10	4 1 28.24	25 17 5.1
11	2 11 36.34	18 37 59.6	110.47	11	4 3 56.88	25 22 23.6
12	2 13 48.01	18 49 2.4	109.58	12	4 6 25.82	25 27 32.9
13	2 16 0.05	18 59 59.9	108.67	13	4 8 55.05	25 32 33.0
14	2 18 12.47	19 10 51.9	107.75	14	4 11 24.56	25 37 23.7
15	2 20 25.27	19 21 38.4	106.80	15	4 13 54.36	25 42 5.0
16	2 22 38.44	19 32 19.2	105.85	16	4 16 24.42	25 46 36.9
17	2 24 51.98	19 42 54.3	104.88	17	4 18 54.76	25 50 59.3
18	2 27 5.91	19 53 23.6	103.88	18	4 21 25.36	25 55 12.1
19	2 29 20.21	20 3 46.9	102.90	19	4 23 56.21	25 59 1
20	2 31 34.89	20 14 4.3	101.88	20	4 26 27.32	26
21	2 33 49.96	20 24 15.6	100.85	21	4 28 58.67	
22	2 36 5.40	20 34 20.7	99.82	22	4 31 30.26	
23	2 38 21.22	20 44 19.6	98.75	23	4 34 2.08	
24	2 40 37.42	N.20 54 12.1		24	4 36 34.12	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
TUESDAY 5.				THURSDAY 7.			
0	^h 4 ^m 36 ^s 34.12	N.26 17 5.0	30.72	0	^h 6 ^m 40 ^s 6.84	N.25 29 22.4	52.57
1	4 39 6.38	26 20 9.3	29.05	1	6 42 40.44	25 24 7.0	54.25
2	4 41 38.86	26 23 3.6	27.38	2	6 45 13.88	25 18 41.5	55.92
3	4 44 11.54	26 25 47.9	25.70	3	6 47 47.16	25 13 6.0	57.60
4	4 46 44.41	26 28 22.1	24.02	4	6 50 20.27	25 7 20.4	59.27
5	4 49 17.47	26 30 46.2	22.32	5	6 52 53.20	25 1 24.8	60.92
6	4 51 50.72	26 33 0.1	20.63	6	6 55 25.95	24 55 19.3	62.55
7	4 54 24.14	26 35 3.9	18.92	7	6 57 58.51	24 49 4.0	64.20
8	4 56 57.73	26 36 57.4	17.37	8	7 0 30.87	24 42 38.8	65.82
9	4 59 31.47	26 38 40.6	15.48	9	7 3 3.04	24 36 3.9	67.45
0	5 2 5.37	26 40 13.5	13.77	10	7 5 35.00	24 29 19.2	69.07
1	5 4 39.41	26 41 36.1	12.03	11	7 8 6.76	24 22 24.8	70.65
2	5 7 13.59	26 42 48.3	10.30	12	7 10 38.29	24 15 20.9	72.25
3	5 9 47.90	26 43 50.1	8.57	13	7 13 9.61	24 8 7.4	73.82
4	5 12 22.33	26 44 41.5	6.83	14	7 15 40.70	24 0 44.5	75.40
5	5 14 56.87	26 45 22.5	5.08	15	7 18 11.55	23 53 12.1	76.95
6	5 17 31.51	26 45 53.0	3.33	16	7 20 42.18	23 45 30.4	78.52
7	5 20 6.25	26 46 13.0	1.57	17	7 23 12.58	23 37 39.3	80.05
8	5 22 41.08	26 46 22.4	0.17	18	7 25 42.73	23 29 39.0	81.57
9	5 25 15.99	26 46 21.4	1.93	19	7 28 12.63	23 21 29.6	83.08
0	5 27 50.97	26 46 9.8	3.70	20	7 30 42.29	23 13 11.1	84.60
1	5 30 26.01	26 45 47.6	5.45	21	7 33 11.70	23 4 43.5	86.10
2	5 33 1.11	26 45 14.9	7.22	22	7 35 40.85	22 56 6.9	87.57
23	5 35 36.26	N.26 44 31.6	8.98	23	7 38 9.74	N.22 47 21.5	89.05
WEDNESDAY 6.				FRIDAY 8.			
0	5 38 11.45	N.26 43 37.7	10.75	0	7 40 38.37	N.22 38 27.2	90.50
1	5 40 46.67	26 42 33.2	12.52	1	7 43 6.73	22 29 24.2	91.95
2	5 43 21.91	26 41 18.1	14.28	2	7 45 34.82	22 20 12.5	93.40
3	5 45 57.17	26 39 52.4	16.05	3	7 48 2.64	22 10 52.1	94.80
4	5 48 32.43	26 38 16.1	17.82	4	7 50 30.18	22 1 23.3	96.22
5	5 51 7.69	26 36 29.2	19.58	5	7 52 57.45	21 51 46.0	97.62
6	5 53 42.94	26 34 31.7	21.35	6	7 55 24.44	21 42 0.3	98.98
7	5 56 18.17	26 32 23.6	23.12	7	7 57 51.15	21 32 6.4	100.37
8	5 58 53.38	26 30 4.9	24.87	8	8 0 17.58	21 22 4.2	101.72
9	6 1 28.55	26 27 35.7	26.62	9	8 2 43.73	21 11 53.9	103.07
0	6 4 3.68	26 24 56.0	28.40	10	8 5 9.59	21 1 35.5	104.38
1	6 6 38.77	26 22 5.6	30.13	11	8 7 35.16	20 51 9.2	105.72
2	6 9 13.79	26 19 4.8	31.88	12	8 10 0.44	20 40 34.9	107.02
3	6 11 48.75	26 15 53.5	33.63	13	8 12 25.44	20 29 52.8	108.28
4	6 14 23.63	26 12 31.7	35.38	14	8 14 50.15	20 19 3.1	109.58
5	6 16 58.44	26 8 59.4	37.12	15	8 17 14.56	20 8 5.6	110.82
6	6 19 33.15	26 5 16.7	38.87	16	8 19 38.69	19 57 0.7	112.08
7	6 22 7.77	26 1 23.5	40.58	17	8 22 2.53	19 45 48.2	113.30
8	6 24 42.29	25 57 20.0	42.32	18	8 24 26.07	19 34 28.4	114.52
	6 27 16.70	25 53 6.1	44.03	19	8 26 49.32	19 23 1.3	115.72
		25 48 41.9	45.75	20	8 29 12.28	19 11 27.0	116.90
		25 44 7.4	47.47	21	8 31 34.95	18 59 45.6	118.08
		25 40 22.6	49.17	22	8 33 57.33	18 47 57.1	119.23
		25 36 50.87	50.87	23	8 36 19.42	18 36 1.7	120.37
				24	8 38 41.21	N.18 23 59.5	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.
SATURDAY 9.				MONDAY 11.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	8 38 41.21	N.18 23 59.5	121.50	0	10 27 1.68	N.7 2 37.7
1	8 41 2.71	18 11 50.5	122.60	1	10 29 11.93	6 46 54.7
2	8 43 23.93	17 59 34.9	123.70	2	10 31 22.03	6 31 10.7
3	8 45 44.85	17 47 12.7	124.78	3	10 33 31.99	6 15 24.7
4	8 48 5.49	17 34 44.0	125.85	4	10 35 41.80	5 59 36.7
5	8 50 25.84	17 22 8.9	126.90	5	10 37 51.48	5 43 46.7
6	8 52 45.91	17 9 27.5	127.93	6	10 40 1.01	5 27 54.7
7	8 55 5.69	16 56 39.9	128.95	7	10 42 10.43	5 12 1.7
8	8 57 25.19	16 43 46.2	129.95	8	10 44 19.72	4 56 6.7
9	8 59 44.40	16 30 46.5	130.93	9	10 46 28.88	4 40 10.7
10	9 2 3.34	16 17 40.9	131.92	10	10 48 37.93	4 24 13.3
11	9 4 22.01	16 4 29.4	132.87	11	10 50 46.87	4 8 14.7
12	9 6 40.39	15 51 12.2	133.80	12	10 52 55.70	3 52 14.9
13	9 8 58.51	15 37 49.4	134.73	13	10 55 4.43	3 36 14.1
14	9 11 16.35	15 24 21.0	135.65	14	10 57 13.06	3 20 12.3
15	9 13 33.93	15 10 47.1	136.53	15	10 59 21.59	3 4 9.8
16	9 15 51.24	14 57 7.9	137.42	16	11 1 30.04	2 48 6.4
17	9 18 8.28	14 43 23.4	138.27	17	11 3 38.40	2 32 2.5
18	9 20 25.06	14 29 33.8	139.12	18	11 5 46.67	2 15 58.0
19	9 22 41.58	14 15 39.1	139.95	19	11 7 54.87	1 59 53.0
20	9 24 57.84	14 1 39.4	140.77	20	11 10 2.99	1 43 47.6
21	9 27 13.85	13 47 34.8	141.57	21	11 12 11.05	1 27 42.0
22	9 29 29.61	13 33 25.4	142.33	22	11 14 19.04	1 11 36.3
23	9 31 45.12	N.13 19 11.4	143.12	23	11 16 26.97	N.0 55 30.4
SUNDAY 10.				TUESDAY 12.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	9 34 0.38	N.13 4 52.7	143.87	0	11 18 34.81	N.0 39 24.0
1	9 36 15.40	12 50 29.5	144.58	1	11 20 42.66	0 23 18.5
2	9 38 30.18	12 36 2.0	145.32	2	11 22 50.44	N.0 7 13.7
3	9 40 44.72	12 21 30.1	146.02	3	11 24 58.17	S.0 8 51.3
4	9 42 59.03	12 6 54.0	146.70	4	11 27 5.86	0 24 56.0
5	9 45 13.11	11 52 13.8	147.37	5	11 29 13.52	0 41 0.7
6	9 47 26.96	11 37 29.6	148.03	6	11 31 21.15	0 57 4.7
7	9 49 40.59	11 22 41.4	148.65	7	11 33 28.75	1 13 7.8
8	9 51 54.00	11 7 49.5	149.28	8	11 35 36.33	1 29 10.7
9	9 54 7.20	10 52 53.8	149.88	9	11 37 43.88	1 45 11.5
10	9 56 20.17	10 37 54.5	150.48	10	11 39 51.43	2 1 12.1
11	9 58 32.94	10 22 51.6	151.05	11	11 41 58.96	2 17 11.5
12	10 0 45.51	10 7 45.3	151.60	12	11 44 6.49	2 33 9.9
13	10 2 57.87	9 52 35.7	152.15	13	11 46 14.02	2 49 7.1
14	10 5 10.04	9 37 22.8	152.67	14	11 48 21.55	3 5 2.9
15	10 7 22.01	9 22 6.8	153.18	15	11 50 29.08	3 20 57.4
16	10 9 33.80	9 6 47.7	153.67	16	11 52 36.63	3 36 50.3
17	10 11 45.39	8 51 25.7	154.15	17	11 54 44.19	3 52 41.7
18	10 13 56.81	8 36 0.8	154.60	18	11 56 51.77	4 8 31.3
19	10 16 8.04	8 20 33.2	155.05	19	11 58 59.37	4 24 19.2
20	10 18 19.11	8 5 2.9	155.48	20	12 1 7.00	4 40 5.3
21	10 20 30.00	7 49 30.0	155.88	21	12 3 14.66	4 55 49.3
22	10 22 40.72	7 33 54.7	156.28	22	12 5 22.35	5 11 31.4
23	10 24 51.28	7 18 17.0	156.67	23	12 7 30.08	5 27 11.2
24	10 27 1.68	N. 7 2 37.0		24	12 9 37.85	S.5 42 48.9

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 13.				FRIDAY 15.		
m s	o i "	"		h m s	o i "	"
0 37' 85"	S. 5 42 48.9	155.88	0	13 53 40.63	S. 17 1 17.5	120.95
1 45' 67"	5 58 24.2	155.48	1	13 55 53.94	17 13 23.2	119.90
3 53' 53"	6 13 57.1	155.07	2	13 58 7.41	17 25 22.6	118.85
5 1' 45"	6 29 27.5	154.63	3	14 0 21.03	17 37 15.7	117.78
6 9' 42"	6 44 55.3	154.18	4	14 2 34.81	17 49 2.4	116.72
0 17' 45"	7 0 20.4	153.73	5	14 4 48.75	18 0 42.7	115.63
2 25' 55"	7 15 42.8	153.25	6	14 7 2.85	18 12 16.5	114.53
4 33' 71"	7 31 2.3	152.77	7	14 9 17.10	18 23 43.7	113.43
6 41' 94"	7 46 18.9	152.25	8	14 11 31.51	18 35 4.3	112.32
8 50' 25"	8 1 32.4	151.75	9	14 13 46.08	18 46 18.2	111.20
0 58' 63"	8 16 42.9	151.20	10	14 16 0.81	18 57 25.4	110.05
3 7' 09"	8 31 50.1	150.67	11	14 18 15.69	19 8 25.7	108.92
5 15' 63"	8 46 54.1	150.10	12	14 20 30.72	19 19 19.2	107.77
7 24' 26"	9 1 54.7	149.53	13	14 22 45.91	19 30 5.8	106.58
9 32' 97"	9 16 51.9	148.93	14	14 25 1.25	19 40 45.3	105.43
1 41' 78"	9 31 45.5	148.33	15	14 27 16.75	19 51 17.9	104.23
3 50' 69"	9 46 35.5	147.70	16	14 29 32.41	20 1 43.3	103.03
5 59' 69"	10 1 21.7	147.08	17	14 31 48.21	20 12 1.5	101.85
8 8' 79"	10 16 4.2	146.45	18	14 34 4.17	20 22 12.6	100.62
0 18' 00"	10 30 42.9	145.77	19	14 36 20.28	20 32 16.3	99.42
2 27' 31"	10 45 17.5	145.12	20	14 38 36.53	20 42 12.8	98.17
4 36' 74"	10 59 48.2	144.42	21	14 40 52.94	20 52 1.8	96.95
6 46' 27"	11 14 14.7	143.72	22	14 43 9.49	21 1 43.5	95.68
8 55' 92"	S. 11 28 37.0	143.00	23	14 45 26.18	S. 21 11 17.6	94.43
THURSDAY 14.				SATURDAY 16.		
1 5' 69"	S. 11 42 55.0	142.28	0	14 47 43.02	S. 21 20 44.2	93.17
3 15' 58"	11 57 8.7	141.53	1	14 50 0.00	21 30 3.2	91.90
5 25' 59"	12 11 17.9	140.78	2	14 52 17.11	21 39 14.6	90.62
7 35' 73"	12 25 22.6	140.02	3	14 54 34.36	21 48 18.3	89.32
9 45' 99"	12 39 22.7	139.23	4	14 56 51.75	21 57 14.2	88.03
1 56' 38"	12 53 18.1	138.43	5	14 59 9.27	22 6 2.4	86.73
4 6' 90"	13 7 8.7	137.63	6	15 1 26.92	22 14 42.8	85.42
6 17' 56"	13 20 54.5	136.80	7	15 3 44.69	22 23 15.3	84.12
8 28' 35"	13 34 35.3	135.98	8	15 6 2.59	22 31 40.0	82.78
0 39' 27"	13 48 11.2	135.13	9	15 8 20.62	22 39 56.7	81.45
2 50' 34"	14 1 42.0	134.27	10	15 10 38.76	22 48 5.4	80.12
5 1' 54"	14 15 7.6	133.40	11	15 12 57.02	22 56 6.1	78.78
7 12' 89"	14 28 28.0	132.52	12	15 15 15.40	23 3 58.8	77.43
9 24' 38"	14 41 43.1	131.62	13	15 17 33.88	23 11 43.4	76.08
1 36' 02"	14 54 52.8	130.70	14	15 19 52.48	23 19 19.9	74.72
3 47' 80"	15 7 57.0	129.78	15	15 22 11.17	23 26 48.2	73.35
5 59' 73"	15 20 55.7	128.85	16	15 24 29.97	23 34 8.3	71.98
8 11' 81"	15 33 48.8	127.92	17	15 26 48.87	23 41 20.2	70.60
0 24' 04"	15 46 36.3	126.98	18	15 29 7.86	23 48 23.8	69.23
2 36' 42"	15 59 17.9	125.98	19	15 31 26.94	23 55 19.2	67.83
4 48' 95"	16 11 53.8	124.98	20	15 33 46.12	24 2 6.2	66.45
7 1	16 24 23.7	124.00	21	15 36 5.37	24 8 44.9	65.07
9		123.00	22	15 38 24.71	24 15 15.3	63.65
			23	15 40 44.13	24 21 37.2	62.25
			24	15 43 3.62	S. 24 27 50.7	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Hour.
SUNDAY 17.				TUESDAY 19.			
	^h ^m ^s	^o ['] ["]	["]		^h ^m ^s	^o ['] ["]	
0	15 43 3.62	S. 24 27 50.7	60.85	0	17 34 38.18	S. 26 38 19.5	0
1	15 45 23.18	24 33 55.8	59.43	1	17 36 55.70	26 37 33.9	1
2	15 47 42.81	24 39 52.4	58.02	2	17 39 13.07	26 36 40.1	2
3	15 50 2.50	24 45 40.5	56.60	3	17 41 30.28	26 35 38.1	3
4	15 52 22.24	24 51 20.1	55.17	4	17 43 47.32	26 34 28.0	4
5	15 54 42.04	24 56 51.1	53.77	5	17 46 4.19	26 33 9.7	5
6	15 57 1.89	25 2 13.7	52.33	6	17 48 20.89	26 31 43.3	6
7	15 59 21.78	25 7 27.7	50.88	7	17 50 37.41	26 30 8.8	7
8	16 1 41.72	25 12 33.0	49.48	8	17 52 53.76	26 28 26.3	8
9	16 4 1.68	25 17 29.9	48.03	9	17 55 9.92	26 26 35.8	9
10	16 6 21.68	25 22 18.1	46.58	10	17 57 25.89	26 24 37.3	10
11	16 8 41.71	25 26 57.6	45.17	11	17 59 41.67	26 22 30.9	11
12	16 11 1.76	25 31 28.6	43.72	12	18 1 57.26	26 20 16.5	12
13	16 13 21.83	25 35 50.9	42.28	13	18 4 12.65	26 17 54.3	13
14	16 15 41.91	25 40 4.6	40.83	14	18 6 27.84	26 15 24.2	14
15	16 18 1.99	25 44 9.6	39.40	15	18 8 42.82	26 12 46.4	15
16	16 20 22.09	25 48 6.0	37.95	16	18 10 57.60	26 10 0.8	16
17	16 22 42.18	25 51 53.7	36.52	17	18 13 12.16	26 7 7.3	17
18	16 25 2.26	25 55 32.8	35.05	18	18 15 26.52	26 4 6.3	18
19	16 27 22.34	25 59 3.1	33.62	19	18 17 40.65	26 0 57.9	19
20	16 29 42.40	26 2 24.8	32.18	20	18 19 54.57	25 57 41.7	20
21	16 32 2.43	26 5 37.9	30.72	21	18 22 8.26	25 54 17.9	21
22	16 34 22.45	26 8 42.2	29.28	22	18 24 21.73	25 50 46.6	22
23	16 36 42.43	S. 26 11 37.9	27.83	23	18 26 34.97	S. 25 47 7.9	23
MONDAY 18.				WEDNESDAY 20.			
	^h ^m ^s	^o ['] ["]	["]		^h ^m ^s	^o ['] ["]	
0	16 39 2.37	S. 26 14 24.9	26.38	0	18 28 47.98	S. 25 43 21.7	0
1	16 41 22.28	26 17 3.2	24.95	1	18 31 0.76	25 39 28.1	1
2	16 43 42.14	26 19 32.9	23.52	2	18 33 13.30	25 35 27.2	2
3	16 46 1.96	26 21 54.0	22.05	3	18 35 25.61	25 31 19.0	3
4	16 48 21.72	26 24 6.3	20.63	4	18 37 37.68	25 27 3.6	4
5	16 50 41.42	26 26 10.1	19.18	5	18 39 49.50	25 22 40.9	5
6	16 53 1.06	26 28 5.2	17.75	6	18 42 1.08	25 18 11.0	6
7	16 55 20.63	26 29 51.7	16.32	7	18 44 12.42	25 13 34.1	7
8	16 57 40.13	26 31 29.6	14.90	8	18 46 23.51	25 8 50.0	8
9	16 59 59.55	26 32 59.0	13.45	9	18 48 34.35	25 3 58.9	9
10	17 2 18.88	26 34 19.7	12.03	10	18 50 44.94	24 59 0.8	10
11	17 4 38.13	26 35 31.9	10.60	11	18 52 55.28	24 53 55.8	11
12	17 6 57.28	26 36 35.5	9.18	12	18 55 5.36	24 48 43.9	12
13	17 9 16.34	26 37 30.6	7.77	13	18 57 15.19	24 43 25.1	13
14	17 11 35.29	26 38 17.2	6.35	14	18 59 24.76	24 37 59.5	14
15	17 13 54.14	26 38 55.3	4.93	15	19 1 34.08	24 32 27.2	15
16	17 16 12.87	26 39 24.9	3.52	16	19 3 43.14	24 26 48.2	16
17	17 18 31.49	26 39 46.0	2.13	17	19 5 51.94	24 21 2.4	17
18	17 20 49.99	26 39 58.8	0.72	18	19 8 0.48	24 15 10.1	18
19	17 23 8.36	26 40 3.1	0.68	19	19 10 8.76	24 9 11.2	19
20	17 25 26.60	26 39 59.0	2.07	20	19 12 16.78	24 3 5.7	20
21	17 27 44.71	26 39 46.6	3.45	21	19 14 24.54	23 56 53.0	21
22	17 30 2.68	26 39 25.9	4.85	22	19 16 32.04	23 50 35	22
23	17 32 20.50	26 38 56.8	6.22	23	19 18 39.28	23 44 1.0	23
24	17 34 38.18	S. 26 38 19.5		24	19 20 46.25	S. 23 37	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>THURSDAY 21.</i>				<i>SATURDAY 23.</i>		
<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
19 20 46.25	S. 23 37 39.6	66.23	0	20 57 25.08	S. 16 35 54.9	107.42
19 22 52.96	23 31 2.2	67.27	1	20 59 20.35	16 25 10.4	108.10
19 24 59.41	23 24 18.6	68.30	2	21 1 15.43	16 14 21.8	108.77
19 27 5.59	23 17 28.8	69.33	3	21 3 10.33	16 3 29.2	109.43
19 29 11.51	23 10 32.8	70.35	4	21 5 5.04	15 52 32.6	110.08
19 31 17.17	23 3 30.7	71.35	5	21 6 59.58	15 41 32.1	110.73
19 33 22.56	22 56 22.6	72.35	6	21 8 53.93	15 30 27.7	111.37
19 35 27.69	22 49 8.5	73.35	7	21 10 48.12	15 19 19.5	112.02
19 37 32.56	22 41 48.4	74.33	8	21 12 42.13	15 8 7.4	112.66
19 39 37.17	22 34 22.4	75.32	9	21 14 35.97	14 56 51.6	113.25
19 41 41.52	22 26 50.5	76.27	10	21 16 29.65	14 45 32.1	113.87
19 43 45.61	22 19 12.9	77.25	11	21 18 23.17	14 34 8.9	114.47
19 45 49.43	22 11 29.4	78.20	12	21 20 16.53	14 22 42.1	115.07
19 47 53.00	22 3 40.2	79.13	13	21 22 9.74	14 11 11.7	115.67
19 49 56.30	21 55 45.4	80.08	14	21 24 2.80	13 59 37.7	116.25
19 51 59.35	21 47 44.9	81.02	15	21 25 55.71	13 48 0.2	116.82
19 54 2.14	21 39 38.8	81.93	16	21 27 48.47	13 36 19.3	117.40
19 56 4.68	21 31 27.2	82.83	17	21 29 41.09	13 24 34.9	117.97
19 58 6.96	21 23 10.2	83.77	18	21 31 33.58	13 12 47.1	118.52
20 0 8.99	21 14 47.6	84.65	19	21 33 25.92	13 0 56.0	119.07
20 2 10.77	21 6 19.7	85.53	20	21 35 18.14	12 49 1.6	119.62
20 4 12.30	20 57 46.5	86.43	21	21 37 10.23	12 37 3.9	120.17
20 6 13.57	20 49 7.9	87.30	22	21 39 2.19	12 25 2.9	120.68
20 8 14.60	S. 20 40 24.1	88.17	23	21 40 54.03	S. 12 12 58.8	121.20
<i>FRIDAY 22.</i>				<i>SUNDAY 24.</i>		
<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
20 10 15.38	S. 20 31 35.1	89.03	0	21 42 45.74	S. 12 0 51.6	121.72
20 12 15.92	20 22 40.9	89.88	1	21 44 37.34	11 48 41.3	122.23
20 14 16.21	20 13 41.6	90.72	2	21 46 28.84	11 36 27.9	122.75
20 16 16.27	20 4 37.3	91.57	3	21 48 20.22	11 24 11.4	123.23
20 18 16.08	19 55 27.9	92.40	4	21 50 11.50	11 11 52.0	123.72
20 20 15.65	19 46 13.5	93.20	5	21 52 2.69	10 59 29.7	124.22
20 22 14.99	19 36 54.3	94.03	6	21 53 53.77	10 47 4.4	124.68
20 24 14.10	19 27 30.1	94.83	7	21 55 44.76	10 34 36.3	125.17
20 26 12.97	19 18 1.1	95.63	8	21 57 35.66	10 22 5.3	125.62
20 28 11.61	19 8 27.3	96.43	9	21 59 26.48	10 9 31.6	126.08
20 30 10.02	18 58 48.7	97.22	10	22 1 17.21	9 56 55.1	126.53
20 32 8.20	18 49 5.4	97.98	11	22 3 7.87	9 44 15.9	126.97
20 34 6.16	18 39 17.5	98.75	12	22 4 58.45	9 31 34.1	127.42
20 36 3.90	18 29 25.0	99.52	13	22 6 48.96	9 18 49.6	127.85
20 38 1.42	18 19 27.9	100.28	14	22 8 39.41	9 6 2.5	128.27
20 39 58.73	18 9 26.2	101.02	15	22 10 29.80	8 53 12.9	128.68
20 41 55.81	17 59 20.1	101.77	16	22 12 20.12	8 40 20.8	129.10
20 43 52.69	17 49 9.5	102.48	17	22 14 10.39	8 27 26.2	129.50
20 45 49.36	17 38 54.6	103.22	18	22 16 0.61	8 14 29.2	129.88
20 47 45.81	17 28 35.3	103.95	19	22 17 50.78	8 1 29.9	130.30
20 49 42.07	17 18 11.6	104.65	20	22 19 40.90	7 48 28.1	130.67
20 51 38.12	17 7 43.7	105.35	21	22 21 30.99	7 35 24.1	131.03
20 53 33.97	16 57 11.6	106.05	22	22 23 21.04	7 22 17.9	131.42
20 55		106.73	23	22 25 11.06	7 9 9.4	131.77
20 57			24	22 27 1.05	S. 6 55 58.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
MONDAY 25.				WEDNESDAY 27.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	22 27 1.05	S. 6 55 58.8	132.12	0	23 55 47.94	N. 4 4 34.1
1	22 28 51.02	6 42 46.1	132.48	1	23 57 41.63	4 18 35.1
2	22 30 40.96	6 29 31.2	132.80	2	23 59 35.50	4 32 36.1
3	22 32 30.89	6 16 14.4	133.15	3	0 1 29.55	4 46 37.1
4	22 34 20.81	6 2 55.5	133.47	4	0 3 23.80	5 0 37.1
5	22 36 10.72	5 49 34.7	133.80	5	0 5 18.25	5 14 37.1
6	22 38 0.62	5 36 11.9	134.10	6	0 7 12.89	5 28 36.1
7	22 39 50.52	5 22 47.3	134.40	7	0 9 7.74	5 42 35.1
8	22 41 40.43	5 9 20.9	134.70	8	0 11 2.79	5 56 33.1
9	22 43 30.35	4 55 52.7	135.00	9	0 12 58.06	6 10 31.1
10	22 45 20.28	4 42 22.7	135.28	10	0 14 53.55	6 24 27.1
11	22 47 10.22	4 28 51.0	135.55	11	0 16 49.26	6 38 23.1
12	22 49 0.18	4 15 17.7	135.83	12	0 18 45.20	6 52 18.1
13	22 50 50.17	4 1 42.7	136.08	13	0 20 41.36	7 6 12.1
14	22 52 40.19	3 48 6.2	136.33	14	0 22 37.76	7 20 5.1
15	22 54 30.25	3 34 28.2	136.60	15	0 24 34.40	7 33 57.1
16	22 56 20.34	3 20 48.6	136.82	16	0 26 31.28	7 47 48.1
17	22 58 10.47	3 7 7.7	137.07	17	0 28 28.40	8 1 38.1
18	23 0 0.64	2 53 25.3	137.28	18	0 30 25.78	8 15 26.1
19	23 1 50.87	2 39 41.6	137.50	19	0 32 23.41	8 29 14.1
20	23 3 41.15	2 25 56.6	137.72	20	0 34 21.30	8 42 59.1
21	23 5 31.49	2 12 10.3	137.90	21	0 36 19.46	8 56 43.1
22	23 7 21.89	1 58 22.9	138.10	22	0 38 17.88	9 10 26.1
23	23 9 12.35	S. 1 44 34.3	138.30	23	0 40 16.58	N. 9 24 7.1
TUESDAY 26.				THURSDAY 28.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	23 11 2.88	S. 1 30 44.5	138.47	0	0 42 15.55	N. 9 37 47.1
1	23 12 53.49	1 16 53.7	138.63	1	0 44 14.80	9 51 24.1
2	23 14 44.18	1 3 1.9	138.80	2	0 46 14.33	10 5 0.1
3	23 16 34.95	0 49 9.1	138.97	3	0 48 14.15	10 18 34.1
4	23 18 25.81	0 35 15.3	139.10	4	0 50 14.27	10 32 6.1
5	23 20 16.75	0 21 20.7	139.23	5	0 52 14.68	10 45 36.1
6	23 22 7.80	S. 0 7 25.3	139.37	6	0 54 15.38	10 59 3.1
7	23 23 58.94	N. 0 6 30.9	139.48	7	0 56 16.39	11 12 29.1
8	23 25 50.19	0 20 27.8	139.60	8	0 58 17.71	11 25 52.1
9	23 27 41.55	0 34 25.4	139.70	9	1 0 19.35	11 39 13.1
10	23 29 33.02	0 48 23.6	139.80	10	1 2 21.29	11 52 31.1
11	23 31 24.61	1 2 22.4	139.88	11	1 4 23.56	12 5 47.1
12	23 33 16.32	1 16 21.7	139.97	12	1 6 26.15	12 19 1.0
13	23 35 8.16	1 30 21.5	140.03	13	1 8 29.07	12 32 11.7
14	23 37 0.13	1 44 21.7	140.08	14	1 10 32.31	12 45 19.6
15	23 38 52.23	1 58 22.2	140.15	15	1 12 35.89	12 58 24.7
16	23 40 44.47	2 12 23.1	140.18	16	1 14 39.81	13 11 26.8
17	23 42 36.86	2 26 24.2	140.23	17	1 16 44.07	13 24 25.9
18	23 44 29.39	2 40 25.6	140.23	18	1 18 48.67	13 37 22.0
19	23 46 22.08	2 54 27.0	140.27	19	1 20 53.63	13 50 14.9
20	23 48 14.92	3 8 28.6	140.27	20	1 22 58.93	14 3
21	23 50 7.92	3 22 30.2	140.27	21	1 25 4.58	14 15
22	23 52 1.09	3 36 31.8	140.25	22	1 27 10.59	14
23	23 53 54.43	3 50 33.3	140.22	23	1 29 16.97	14
24	23 55 47.94	N. 4 4 34.6		24	1 31 23.71	N. 14

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

hr.	Right Ascension.	Declination.	Diff. Dec. for 10".	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10".
FRIDAY 29.				SUNDAY 31.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	1 31 23.71	N.14 53 48.7	125.33	0	3 20 32.00	N.23 17 50.9	77.62
1	1 33 30.81	15 6 20.7	124.70	1	3 22 58.28	23 25 36.6	76.25
2	1 35 38.28	15 18 48.9	124.07	2	3 25 24.93	23 33 14.1	74.85
3	1 37 46.13	15 31 13.3	123.40	3	3 27 51.96	23 40 43.2	73.43
4	1 39 54.35	15 43 33.7	122.73	4	3 30 19.35	23 48 3.8	72.02
5	1 42 2.95	15 55 50.1	122.05	5	3 32 47.12	23 55 15.9	70.58
6	1 44 11.93	16 8 2.4	121.33	6	3 35 15.25	24 2 19.4	69.13
7	1 46 21.28	16 20 10.4	120.62	7	3 37 43.73	24 9 14.2	67.67
8	1 48 31.03	16 32 14.1	119.90	8	3 40 12.57	24 16 0.2	66.20
9	1 50 41.16	16 44 13.5	119.13	9	3 42 41.76	24 22 37.4	64.70
10	1 52 51.69	16 56 8.3	118.38	10	3 45 11.29	24 29 5.6	63.18
11	1 55 2.60	17 7 58.6	117.60	11	3 47 41.16	24 35 24.7	61.68
12	1 57 13.91	17 19 44.2	116.82	12	3 50 11.37	24 41 34.8	60.15
13	1 59 25.62	17 31 25.1	116.00	13	3 52 41.91	24 47 35.7	58.60
14	2 1 37.72	17 43 1.1	115.18	14	3 55 12.76	24 53 27.3	57.05
15	2 3 50.22	17 54 32.2	114.35	15	3 57 43.94	24 59 9.6	55.48
16	2 6 3.13	18 5 58.3	113.48	16	4 0 15.42	25 4 42.5	53.90
17	2 8 16.44	18 17 19.2	112.60	17	4 2 47.22	25 10 5.9	52.30
18	2 10 30.16	18 28 34.8	111.73	18	4 5 19.31	25 15 19.7	50.72
19	2 12 44.28	18 39 45.2	110.82	19	4 7 51.69	25 20 24.0	49.08
20	2 14 58.81	18 50 50.1	109.88	20	4 10 24.35	25 25 18.5	47.47
21	2 17 13.74	19 1 49.4	108.97	21	4 12 57.30	25 30 3.3	45.82
22	2 19 29.09	19 12 43.2	108.00	22	4 15 30.52	25 34 38.2	44.18
23	2 21 44.84	N.19 23 31.2	107.03	23	4 18 4.01	N.25 39 3.3	42.52
SATURDAY 30.				MONDAY, NOV. 1.			
24	2 24 1.02	N.19 34 13.4	106.05	0	4 20 37.75	N.25 43 18.4	
25	2 26 17.60	19 44 49.7	105.03				
26	2 28 34.60	19 55 19.9	104.02				
27	2 30 52.01	20 5 44.0	102.98				
28	2 33 9.83	20 16 1.9	101.95				
29	2 35 28.07	20 26 13.6	100.87				
30	2 37 46.72	20 36 18.8	99.78				
31	2 40 5.78	20 46 17.5	98.68				
32	2 42 25.25	20 56 9.6	97.58				
33	2 44 45.14	21 5 55.1	96.45				
34	2 47 5.44	21 15 33.8	95.30				
35	2 49 26.14	21 25 5.6	94.13				
36	2 51 47.26	21 34 30.4	92.97				
37	2 54 8.78	21 43 48.2	91.78				
38	2 56 30.72	21 52 58.9	90.57				
39	2 58 53.05	22 2 2.3	89.33				
40	3 1 15.79	22 10 58.3	88.10				
41	3 3 38.94	22 19 46.9	86.85				
42	3 6 2.48	22 28 28.0	85.57				
43	3 8 26.42	22 37 1.4	84.28				
		22 45 27.1	82.98				
		53 45.0	81.67				
		5.0	80.33				
			78.98				

PHASES OF THE MOON.

☾ Last Quarter	- -	^d ^h ^m	7 9 11.4
● New Moon	- - -	14 4 26.6	
☽ First Quarter	- -	21 21 1.5	
○ Full Moon	- - -	29 17 57.2	

☾ Perigee	- - - - -	^d ^h	10 7
☾ Apogee	- - - - -	22 9	

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
1	α Aquilæ W.	77° 28' 38"	3336	78° 52' 8"	3320	80° 15' 56"	3304	81° 40' 38"
	Fomalhaut W.	52 10 51	3292	53 35 12	3257	55 0 14	3226	56 25 53
	α Pegasi W.	29 44 12	3433	31 5 51	3358	32 28 56	3290	33 53 19
	Aldebaran E.	50 42 14	2798	49 7 43	2794	47 33 7	2791	45 58 27
	Pollux E.	92 35 13	2705	90 58 39	2696	89 21 53	2687	87 44 55
2	α Aquilæ W.	88 44 26	3233	90 9 56	3224	91 35 37	3216	93 1 27
	Fomalhaut W.	63 42 22	3073	65 11 5	3052	66 40 14	3033	68 9 46
	α Pegasi W.	41 10 46	3012	42 40 44	2978	44 11 24	2949	45 42 41
	Aldebaran E.	38 4 50	2794	36 30 14	2801	34 55 47	2808	33 21 29
	Pollux E.	79 37 4	2634	77 58 55	2626	76 20 35	2617	74 42 3
3	α Aquilæ W.	100 12 8	3192	101 38 27	3193	103 4 45	3193	104 31 3
	Fomalhaut W.	75 42 48	2937	77 14 20	2924	78 46 8	2912	80 18 12
	α Pegasi W.	53 27 8	2809	55 1 24	2790	56 36 5	2774	58 11 7
	Pollux E.	66 26 44	2571	64 47 9	2564	63 7 24	2556	61 27 29
	Venus E.	109 45 59	2961	108 14 57	2952	106 43 44	2944	105 12 21
4	α Pegasi W.	66 11 23	2687	67 48 21	2675	69 25 34	2663	71 3 3
	α Arietis W.	22 39 7	2590	24 18 16	2570	25 57 52	2553	27 37 52
	Pollux E.	53 5 36	2517	51 24 47	2512	49 43 50	2506	48 2 43
	Venus E.	97 32 49	2895	96 0 24	2887	94 27 49	2880	92 55 4
	SUN E.	133 12 15	2842	131 38 41	2832	130 4 55	2824	128 30 59
5	α Pegasi W.	79 13 58	2604	80 52 48	2596	82 31 49	2588	84 11 1
	α Arietis W.	36 2 44	2476	37 44 31	2465	39 26 33	2456	41 8 48
	Pollux E.	39 35 37	2479	37 53 55	2476	36 12 8	2474	34 30 18
	Regulus E.	76 18 2	2435	74 35 17	2428	72 52 22	2422	71 9 19
	Venus E.	85 8 57	2835	83 35 15	2828	82 1 24	2821	80 27 24
6	SUN E.	120 38 32	2775	119 3 32	2766	117 28 20	2759	115 52 59
	α Arietis W.	49 43 10	2405	51 26 37	2398	53 10 15	2391	54 54 3
	Aldebaran W.	19 37 16	2975	21 8 0	2882	22 40 42	2807	24 15 1
	Regulus E.	62 31 42	2383	60 47 43	2377	59 3 35	2371	57 19 19
	Venus E.	72 35 10	2781	71 0 17	2774	69 25 15	2769	67 50 6
7	SUN E.	107 53 47	2716	106 17 28	2709	104 41 0	2702	103 4 23
	α Arietis W.	63 35 36	2350	65 20 23	2343	67 5 20	2337	68 50 25
	Aldebaran W.	32 23 20	2551	34 3 22	2526	35 43 59	2504	37 25 6
	Regulus E.	48 35 50	2337	46 50 44	2331	45 5 30	2326	43 20 8
	Venus E.	59 52 16	2732	58 16 18	2727	56 40 14	2721	55 4 2
8	SUN E.	94 59 3	2663	93 21 33	2656	91 43 54	2651	90 6 8
	α Arietis W.	77 37 59	2303	79 23 54	2298	81 9 57	2293	82 56 7
	Aldebaran W.	45 56 54	2409	47 40 16	2397	49 23 55	2387	51 7 48
	Regulus E.	34 31 32	2298	32 45 29	2294	30 59 21	2291	29 13 8
	Venus E.	47 1 23	2693	45 24 34	2689	43 47 39	2685	42 10 38
9	SUN E.	81 55 19	2617	80 16 47	2612	78 38 8	2607	76 59 23
	α Arietis W.	91 48 34	2267	93 35 22	2264	95 22 14	2260	97
	Aldebaran W.	59 50 37	2336	61 35 44	2330	63 21 0	2324	6
	Pollux W.	17 33 27	2446	19 15 56	2410	20 59 16	2381	
	Venus E.	34 4 47	2673	32 27 31	2673	30 50 15	267	
10	SUN E.	68 44 4	2582	67 4 44	2579	65 25 20	2570	

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]	
1	α Aquilæ W.	83 4 26	3277	84 29 5	3264	85 53 59	3253	87 19 6	3242
	Fomalhaut W.	57 52 8	3167	59 18 56	3142	60 46 15	3117	62 14 4	3093
	α Pegasi W.	35 18 53	3177	36 45 30	3129	38 13 4	3086	39 41 31	3047
	Aldebaran E.	44 23 44	2787	42 48 59	2787	41 14 14	2788	39 39 30	2791
	Pollux E.	86 7 45	2668	84 30 22	2660	82 52 48	2651	81 15 2	2642
2	α Aquilæ W.	94 27 24	3204	95 53 29	3200	97 19 38	3196	98 45 52	3194
	Fomalhaut W.	69 39 42	2997	71 9 59	2981	72 40 36	2965	74 11 33	2950
	α Pegasi W.	47 14 33	2895	48 46 58	2871	50 19 54	2850	51 53 17	2828
	Aldebaran E.	31 47 26	2834	30 13 42	2852	28 40 21	2874	27 7 29	2904
	Pollux E.	73 3 21	2602	71 24 28	2593	69 45 24	2585	68 6 9	2578
3	α Aquilæ W.	105 57 17	3199	107 23 27	3204	108 49 31	3211	110 15 27	3220
	Fomalhaut W.	81 50 31	2890	83 23 3	2880	84 55 48	2870	86 28 45	2862
	α Pegasi W.	59 46 32	2741	61 22 17	2727	62 58 21	2714	64 34 43	2700
	Pollux E.	59 47 25	2543	58 7 11	2537	56 26 49	2530	54 46 17	2523
	Venus E.	103 40 47	2927	102 9 3	2920	100 37 9	2911	99 5 4	2903
4	α Pegasi W.	72 40 47	2642	74 18 45	2632	75 56 57	2623	77 35 21	2613
	α Arietis W.	29 18 14	2523	30 58 55	2510	32 39 55	2497	34 21 12	2487
	Pollux E.	46 21 33	2495	44 40 13	2491	42 58 47	2487	41 17 15	2482
	Venus E.	91 22 10	2365	89 49 6	2357	88 15 52	2350	86 42 29	2343
	SUN E.	126 56 51	2307	125 22 32	2799	123 48 3	2791	122 13 23	2782
5	α Pegasi W.	85 50 23	2572	87 29 56	2566	89 9 38	2559	90 49 29	2553
	α Arietis W.	42 51 16	2438	44 33 57	2429	46 16 50	2421	47 59 54	2413
	Pollux E.	32 48 26	2472	31 6 33	2472	29 24 41	2475	27 42 52	2478
	Regulus E.	69 26 6	2408	67 42 43	2403	65 59 12	2396	64 15 31	2390
	Venus E.	78 53 15	2308	77 18 57	2301	75 44 30	2794	74 9 54	2788
	SUN E.	114 17 28	2744	112 41 47	2738	111 5 57	2730	109 29 57	2723
6	α Arietis W.	56 38 2	2377	58 22 10	2369	60 6 29	2362	61 50 58	2356
	Aldebaran W.	25 50 42	2693	27 27 31	2649	29 5 19	2612	30 43 58	2580
	Regulus E.	55 34 54	2359	53 50 21	2353	52 5 39	2348	50 20 49	2342
	Venus E.	66 14 48	2756	64 39 22	2750	63 3 48	2743	61 28 5	2738
	SUN E.	101 27 36	2689	99 50 41	2682	98 13 37	2675	96 36 24	2669
7	α Arietis W.	70 35 39	2325	72 21 2	2320	74 6 33	2314	75 52 12	2309
	Aldebaran W.	39 6 41	2466	40 48 42	2450	42 31 5	2435	44 13 50	2422
	Regulus E.	41 34 39	2315	39 49 2	2311	38 3 19	2307	36 17 29	2302
	Venus E.	53 27 43	2711	51 51 17	2706	50 14 45	2701	48 38 7	2697
	SUN E.	88 28 13	2639	86 50 11	2633	85 12 1	2628	83 33 44	2622
8	α Arietis W.	84 42 23	2283	86 28 47	2280	88 15 16	2275	90 1 52	2271
	Aldebaran W.	52 51 58	2367	54 36 20	2359	56 20 54	2351	58 5 40	2343
	Regulus E.	27 26 51	2285	25 40 30	2283	23 54 5	2283	22 7 40	2282
	Venus E.	40 33 55	2679	38 56 27	2677	37 19 16	2675	35 42 2	2674
	SUN E.	75 20 31	2598	73 41 33	2593	72 2 29	2589	70 23 19	2585
	α Arietis W.	98 56 13	2255	100 43 19	2252	102 30 29	2251	104 17 41	2249
		66 51 58	2314	68 37 37	2309	70 23 24	2305	72 9 16	2301
		27 46	2342	26 12 44	2327	27 58 4	2315	29 43 42	2304
		18	2679	25 58 40	2683	24 21 38	2690	22 44 46	2700
		570		60 26 43	2569	58 47 5	2567	57 7 24	2565

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		^o ['] ["]		^o ['] ["]		^o ['] ["]		^o ['] ["]
10	Aldebaran W.	73 55 14	2299	75 41 15	2296	77 27 21	2293	79 13 30
	Pollux W.	31 29 35	2295	33 15 42	2288	35 1 59	2282	36 48 25
	SUN E.	55 27 41	2564	53 47 57	2564	52 8 12	2564	50 28 27
11	Aldebaran W.	88 4 39	2290	89 50 53	2291	91 37 6	2293	93 23 16
	Pollux W.	45 42 11	2262	47 29 6	2261	49 16 3	2261	51 3 0
	SUN E.	42 10 2	2573	40 30 30	2577	38 51 4	2582	37 11 44
16	SUN W.	23 28 8	3007	24 58 12	3013	26 28 9	3022	27 57 55
	Mars E.	41 34 55	2820	40 0 53	2835	38 27 11	2852	36 53 50
	Saturn E.	42 33 36	2618	40 55 6	2635	39 16 58	2650	37 39 11
	α Aquilæ E.	78 17 36	3220	76 51 51	3244	75 26 34	3268	74 1 45
17	SUN W.	35 23 43	3087	36 52 9	3099	38 20 20	3113	39 48 14
	Mars E.	29 12 11	2946	27 40 51	2963	26 9 52	2980	24 39 14
	Saturn E.	29 36 7	2787	28 0 42	2776	26 25 43	2797	24 51 11
	α Aquilæ E.	67 5 38	3442	65 44 9	3476	64 23 18	3512	63 3 7
	Fomalhaut E.	90 42 54	3060	89 13 55	3074	87 45 14	3090	86 16 52
18	SUN W.	47 3 39	3194	48 29 55	3209	49 55 54	3221	51 21 38
	Fomalhaut E.	79 0 6	3192	77 33 47	3211	76 7 51	3229	74 42 16
	α Pegasi E.	100 12 52	2978	98 42 11	2989	97 11 45	3001	95 41 34
19	SUN W.	58 26 25	3299	59 50 38	3310	61 14 38	3322	62 38 24
	Antares W.	16 46 43	2909	18 18 51	2920	19 50 45	2931	21 22 24
	Fomalhaut E.	67 40 12	3351	66 16 59	3373	64 54 12	3396	63 31 51
	α Pegasi E.	88 14 26	3074	86 45 45	3087	85 17 19	3098	83 49 7
20	SUN W.	69 34 9	3383	70 56 45	3393	72 19 9	3401	73 41 25
	Antares W.	28 57 29	2989	30 27 55	2998	31 58 10	3006	33 28 16
	Jupiter W.	19 5 49	3149	20 32 59	3146	22 0 13	3144	23 27 29
	Fomalhaut E.	56 46 57	3548	55 27 26	3577	54 8 27	3608	52 50 1
	α Pegasi E.	76 31 36	3167	75 4 47	3177	73 38 10	3188	72 11 46
21	SUN W.	80 30 36	3442	81 52 5	3447	83 13 29	3452	84 34 47
	Antares W.	40 56 35	3044	42 25 53	3049	43 55 5	3052	45 24 13
	Jupiter W.	30 43 39	3151	32 10 47	3153	33 37 53	3153	35 4 58
	Saturn W.	20 2 46	3148	21 29 57	3144	22 57 13	3140	24 24 34
	α Pegasi E.	65 2 54	3249	63 37 43	3260	62 12 45	3270	60 47 58
	α Arietis E.	107 0 34	3061	105 31 37	3066	104 2 46	3069	102 33 59
22	SUN W.	91 20 20	3468	92 41 20	3470	94 2 18	3470	95 23 16
	Antares W.	52 48 51	3069	54 17 39	3069	55 46 26	3069	57 15 13
	Jupiter W.	42 19 57	3159	43 46 55	3159	45 13 53	3158	46 40 52
	Saturn W.	31 41 53	3130	33 9 26	3128	34 37 2	3127	36 4 39
	Mars W.	28 26 36	3350	29 49 50	3351	31 13 3	3351	32 36 16
	α Pegasi E.	53 47 6	3333	52 23 33	3345	51 0 14	3357	49 37 8
	α Arietis E.	95 11 1	3084	93 42 32	3085	92 14 4	3085	90 45 36
23	SUN W.	102 8 17	3462	103 29 24	3459	104 50 34	3455	106 11 48
	Antares W.	64 39 23	3061	66 8 20	3058	67 37 21	3055	69 6 26
	Jupiter W.	53 56 16	3145	55 23 31	3143	56 50 49	3138	58 18 13
	Saturn W.	43 23 32	3110	44 51 30	3105	46 19 33	3101	47 47
	Mars W.	39 32 40	3341	40 56 4	3338	42 19 32	3334	43 4

MEAN TIME.

LUNAR DISTANCES.

the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
0	Aldebaran W.	80 59 42	2291	82 45 55	2289	84 32 10	2289	86 18 25	2290
	Pollux W.	38 35 0	2272	40 21 41	2268	42 8 27	2266	43 55 17	2263
	Sun E.	48 48 42	2564	47 8 58	2566	45 29 17	2567	43 49 37	2571
1	Aldebaran W.	95 9 22	2298	96 55 25	2300	98 41 24	2304	100 27 17	2309
	Pollux W.	52 49 56	2262	54 36 52	2264	56 23 45	2266	58 10 35	2268
	Sun E.	35 32 32	2593	33 53 28	2601	32 14 35	2610	30 35 53	2619
5	Sun W.	29 27 30	3040	30 56 53	3050	32 26 4	3061	33 55 1	3073
	Mars E.	35 20 49	2884	33 48 9	2899	32 15 49	2916	30 43 50	2931
	Saturn E.	36 1 48	2684	34 24 47	2702	32 48 10	2720	31 11 56	2738
	α Aquilæ E.	72 37 26	3321	71 13 39	3349	69 50 24	3379	68 27 43	3410
7	Sun W.	41 15 52	3140	42 43 13	3153	44 10 18	3167	45 37 7	3181
	Mars E.	23 8 56	3011	21 38 57	3028	20 9 19	3045	18 40 2	3061
	Saturn E.	23 17 6	2840	21 43 30	2864	20 10 25	2891	18 37 55	2920
	α Aquilæ E.	61 43 37	3588	60 24 50	3630	59 6 48	3673	57 49 32	3719
	Fomalhaut E.	84 48 50	3123	83 21 8	3139	81 53 46	3157	80 26 45	3175
8	Sun W.	52 47 6	3248	54 12 18	3261	55 37 15	3274	57 1 57	3286
	Fomalhaut E.	73 17 4	3269	71 52 16	3288	70 27 50	3309	69 3 49	3330
	α Pegasi E.	94 11 38	3026	92 41 57	3039	91 12 32	3050	89 43 21	3063
9	Sun W.	64 1 57	3344	65 25 18	3354	66 48 27	3365	68 11 24	3375
	Antares W.	22 53 50	2952	24 25 3	2962	25 56 4	2972	27 26 52	2981
	Fomalhaut E.	62 9 56	3443	60 48 28	3469	59 27 29	3494	58 6 58	3521
	α Pegasi E.	82 21 9	3121	80 53 25	3133	79 25 55	3144	77 58 39	3155
0	Sun W.	75 3 31	3416	76 25 29	3423	77 47 19	3431	79 9 1	3437
	Antares W.	34 58 12	3020	36 28 0	3027	37 57 39	3034	39 27 10	3039
	Jupiter W.	24 54 45	3144	26 22 1	3145	27 49 16	3147	29 16 28	3148
	Fomalhaut E.	51 32 11	3674	50 14 56	3710	48 58 19	3747	47 42 22	3787
	α Pegasi E.	70 45 35	3209	69 19 36	3220	67 53 50	3230	66 28 16	3240
1	Sun W.	85 56 0	3459	87 17 10	3462	88 38 16	3465	89 59 19	3467
	Antares W.	46 53 15	3060	48 22 14	3063	49 51 9	3065	51 20 1	3067
	Jupiter W.	36 32 0	3157	37 59 1	3158	39 26 0	3158	40 52 59	3159
	Saturn W.	25 51 57	3136	27 19 23	3134	28 46 51	3133	30 14 21	3131
	α Pegasi E.	59 23 24	3290	57 59 1	3301	56 34 51	3311	55 10 52	3322
	α Arietis E.	101 5 17	3077	99 36 39	3079	98 8 4	3081	96 39 31	3083
2	Sun W.	96 44 14	3470	98 5 12	3468	99 26 12	3466	100 47 14	3465
	Antares W.	58 44 1	3069	60 12 49	3068	61 41 38	3066	63 10 29	3064
	Jupiter W.	48 7 52	3155	49 34 55	3154	51 1 59	3152	52 29 6	3149
	Saturn W.	37 32 19	3122	39 0 2	3119	40 27 49	3117	41 55 38	3113
	Mars W.	33 59 30	3350	35 22 44	3347	36 46 1	3346	38 9 19	3344
	α Pegasi E.	48 14 17	3384	46 51 42	3398	45 29 23	3414	44 7 22	3431
	α Arietis E.	89 17 9	3084	87 48 40	3083	86 20 10	3083	84 51 39	3080
3	Sun W.	107 33 7	3447	108 54 31	3441	110 16 1	3436	111 37 37	3430
	Antares W.	70 35 36	3046	72 4 52	3041	73 34 14	3036	75 3 42	3030
	Jupiter ---	59 45 42	3128	61 13 17	3124	62 40 58	3118	64 8 46	3111
	Satu	55	3092	50 44 15	3085	52 12 43	3080	53 41 17	3074
	M		25	46 30 25	3319	47 54 14	3313	49 18 10	3307

MEAN TIME.										
LUNAR DISTANCES.										
Day of the Month.	Star's Name and Position.		Noon.	P.L. of diff.	III ^b .	P.L. of diff.	VI ^b .	P.L. of diff.	IX ^b .	
23	α Pegasi	E.	42 45 40	3449	41 24 19	3470	40 3 21	3492	38 42 48	
	α Arietis	E.	83 23 5	3078	81 54 28	3074	80 25 47	3071	78 57 5	
24	SUN	W.	112 59 19	3423	114 21 9	3417	115 43 6	3410	117 5 1	
	Antares	W.	76 33 17	3024	78 3 0	3018	79 32 51	3010	81 2 5	
	Jupiter	W.	65 36 42	3105	67 4 45	3098	68 32 57	3091	70 1 1	
	Saturn	W.	55 9 59	3066	56 38 50	3060	58 7 49	3052	59 36 5	
	Mars	W.	50 42 13	3301	52 6 23	3294	53 30 42	3287	54 55 5	
	α Pegasi	E.	32 8 22	3706	30 51 41	3762	29 35 59	3827	28 21 2	
	α Arietis	E.	71 31 56	3042	70 2 35	3036	68 33 7	3029	67 3 3	
	Aldebaran	E.	91 53 44	3023	90 24 0	3014	88 54 4	3004	87 23 5	
25	SUN	W.	123 57 55	3359	125 20 58	3350	126 44 12	3340	128 7 3	
	Jupiter	W.	77 25 34	3039	78 54 58	3029	80 24 35	3019	81 54 2	
	Saturn	W.	67 5 13	3000	68 35 25	2989	70 5 51	2980	71 36 2	
	Mars	W.	61 59 55	3233	63 25 25	3222	64 51 8	3213	66 17 7	
	α Arietis	E.	59 33 7	2982	58 2 32	2974	56 31 46	2965	55 0 4	
	Aldebaran	E.	91 53 44	3023	90 24 0	3014	88 54 4	3004	87 23 5	
26	Jupiter	W.	89 26 51	2953	90 58 3	2941	92 29 30	2929	94 1 1	
	Saturn	W.	79 13 0	2913	80 45 2	2902	82 17 18	2890	83 49 5	
	Mars	W.	73 29 56	3143	74 57 13	3130	76 24 46	3119	77 52 3	
	α Arietis	E.	47 23 1	2906	45 50 50	2896	44 18 26	2887	42 45 5	
	Aldebaran	E.	79 50 0	2940	78 18 32	2930	76 46 51	2918	75 14 5	
	Regulus	E.	93 47 27	2410	92 4 7	2402	90 21 1	2394	88 58 1	
27	Jupiter	W.	101 43 39	2853	103 16 58	2841	104 50 33	2828	106 24 2	
	Saturn	W.	91 36 28	2815	93 10 37	2802	94 45 2	2789	96 19 4	
	Mars	W.	85 15 31	3039	86 44 56	3026	88 14 37	3011	89 44 3	
	α Aquilæ	W.	62 53 54	3568	64 13 3	3534	65 32 50	3501	66 53 1	
	α Arietis	E.	34 59 38	2828	33 25 47	2821	31 51 46	2813	30 17 3	
	Aldebaran	E.	67 31 44	2851	65 58 22	2841	64 24 47	2829	62 50 5	
28	Mars	W.	97 18 47	2929	98 50 29	2915	100 22 29	2901	101 54 4	
	α Aquilæ	W.	73 43 14	3338	75 6 42	3314	76 30 37	3292	77 54 5	
	Fomalhaut	W.	48 27 9	3369	49 50 1	3324	51 13 45	3281	52 38 1	
	α Pegasi	W.	26 10 32	3648	27 28 15	3533	28 48 3	3433	30 9 4	
	Aldebaran	E.	54 58 23	2769	53 23 14	2760	51 47 53	2751	50 12 2	
	Pollux	E.	96 55 45	2693	95 18 56	2681	93 41 50	2667	92 4 2	
29	α Aquilæ	W.	85 2 22	3184	86 28 50	3169	87 55 36	3156	89 22 3	
	Fomalhaut	W.	59 52 2	3075	61 20 42	3048	62 49 56	3022	64 19 4	
	α Pegasi	W.	37 19 36	3039	38 49 1	2993	40 19 22	2954	41 50 3	
	Aldebaran	E.	42 12 26	2717	40 36 9	2714	38 59 48	2714	37 23 2	
	Pollux	E.	83 53 11	2593	82 14 6	2580	80 34 44	2569	78 55 7	
	Regulus	E.	93 47 27	2410	92 4 7	2402	90 21 1	2394	88 58 1	
30	Fomalhaut	W.	71 55 45	2893	73 28 13	2875	75 1 4	2858	76 34 17	
	α Pegasi	W.	49 37 17	2767	51 12 28	2744	52 48 9	2721	54 24 21	
	Aldebaran	E.	29 23 18	2766	27 48 5	2789	26 13 22	2820	24 39 20	
	Pollux	E.	70 33 9	2504	68 52 1	2495	67 10 40	2485	65 29 4	
31	Fomalhaut	W.	84 24 51	2781	85 59 44	2772	87 34 4	2762	89 10 4	
	α Pegasi	W.	62 31 41	2615	64 10 16	2601	65 49 1	2587	67 10 1	
	α Arietis	W.	18 54 59	2553	20 34 59	2523	22 15 3	2493	24 15 3	
	Pollux	E.	56 58 11	2436	55 15 27	2429	53 31 1	2421	51 42 1	
	Regulus	E.	93 47 27	2410	92 4 7	2402	90 21 1	2394	88 58 1	

MEAN TIME.

LUNAR DISTANCES.

Star's Name and Position,		Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]		[°] ['] ["]	
Pegasi E.		37 22 44	3546	36 3 11	3578	34 44 13	3615	33 25 55	3657
Arietis E.		77 28 12	3063	75 59 17	3058	74 30 16	3054	73 1 10	3048
N W.		118 27 25	3394	119 49 48	3386	121 12 20	3378	122 35 2	3368
Tares W.		82 33 0	2995	84 3 19	2987	85 33 48	2978	87 4 28	2970
Piter W.		71 29 48	3074	72 58 29	3067	74 27 19	3057	75 56 21	3048
urn W.		61 6 16	3036	62 35 44	3028	64 5 22	3018	65 35 12	3009
rs W.		56 19 46	3270	57 44 33	3262	59 9 29	3252	60 34 37	3243
Pegasi E.		27 8 9	3994	25 56 23	4101	24 46 22	4230	23 38 24	4383
Arietis E.		65 33 45	3014	64 3 50	3007	62 33 46	2999	61 3 32	2990
N W.		129 31 14	3319	130 55 3	3309	132 19 4	3299	133 43 17	3288
Piter W.		83 24 26	2998	84 54 41	2987	86 25 10	2976	87 55 53	2964
urn W.		73 7 19	2959	74 38 23	2948	76 9 41	2936	77 41 14	2926
rs W.		67 43 10	3191	69 9 30	3178	70 36 5	3167	72 2 53	3155
Arietis E.		53 29 40	2946	51 58 19	2935	50 26 45	2927	48 55 0	2916
lebaran E.		85 53 35	2983	84 23 1	2973	82 52 14	2962	81 21 14	2951
Piter W.		95 33 9	2905	97 5 22	2891	98 37 52	2880	100 10 37	2866
urn W.		85 22 37	2865	86 55 41	2853	88 29 0	2840	90 2 36	2828
rs W.		79 20 37	3092	80 48 56	3079	82 17 31	3065	83 46 23	3052
Arietis E.		41 13 1	2866	39 39 58	2856	38 6 43	2847	36 33 16	2838
lebaran E.		73 42 46	2896	72 10 22	2884	70 37 43	2874	69 4 51	2863
Piter W.		107 58 33	2802	109 32 59	2789	111 7 41	2776	112 42 41	2763
urn W.		97 54 44	2763	99 30 1	2750	101 5 35	2737	102 41 26	2724
rs W.		91 14 51	2984	92 45 24	2970	94 16 14	2956	95 47 22	2943
Aquilæ W.		68 14 10	3441	69 35 40	3414	70 57 41	3386	72 20 13	3361
Arietis E.		28 43 15	2800	27 8 47	2796	25 34 14	2794	23 59 38	2793
lebaran E.		61 16 53	2808	59 42 35	2798	58 8 4	2788	56 33 20	2778
rs W.		103 27 20	2874	105 0 12	2861	106 33 21	2849	108 6 46	2835
Aquilæ W.		79 19 43	3252	80 44 51	3233	82 10 21	3216	83 36 11	3199
malhaut W.		54 3 40	3204	55 29 45	3169	56 56 31	3135	58 23 58	3105
Pegasi W.		31 32 59	3270	32 57 46	3203	34 23 52	3142	35 51 11	3087
lebaran E.		48 36 39	2736	47 0 47	2730	45 24 47	2725	43 48 40	2720
llux E.		90 26 45	2642	88 48 47	2629	87 10 32	2617	85 32 0	2604
Aquilæ W.		90 49 54	3133	92 17 24	3124	93 45 5	3115	95 12 57	3106
malhaut W.		65 49 59	2974	67 20 45	2951	68 51 59	2930	70 23 39	2910
Pegasi W.		43 22 32	2881	44 55 15	2850	46 28 38	2820	48 2 40	2793
lebaran E.		35 47 8	2720	34 10 54	2726	32 34 48	2735	30 58 54	2748
llux E.		77 15 14	2546	75 35 5	2535	73 54 41	2525	72 14 2	2515
malhaut W.		78 7 49	2829	79 41 39	2815	81 15 47	2803	82 50 11	2791
Pegasi W.		56 1 0	2682	57 38 4	2663	59 15 34	2646	60 53 26	2629
lebaran E.		23 6 9	2911	21 34 4	2979	20 3 25	3068	18 34 36	3185
llux E.		63 47 19	2467	62 5 19	2459	60 23 8	2450	58 40 45	2443
W.		90 45 34	2748	92 21 10	2742	93 56 54	2737	95 32 45	2733
		69 7 52	2564	70 47 37	2552	72 27 38	2542	74 7 53	2533
		15 38 42	2458	27 20 54	2442	29 3 29	2428	30 46 24	2415
		6 19	2411	48 23 0	2406	46 39 34	2402	44 56 2	2398
		58	2380	85 8 54	2373	83 24 40	2366	81 40 16	2360



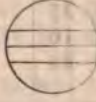
CONFIGURATIONS OF THE SATELLITES OF JUPITER

At 6^h 15^m, MEAN TIME.

Day of the Month.		West.			East.	
1			2.	○	.1	.3
2			.1	.2 ○		3.
3				○	1. 3.	2.
4	2. ○		3.	.1 ○		4.
5			3.	.2 ○	1.	4.
6	.1 ●		.3	○	.2 4.	
7	.3 ●			4. 1. ○	2.	
8			4.	2. ○	.1	.3
9		4.		1. 2. ○		3.
10		4.		○	1. 3.	.2
11		.4		.1 3. ○	2.	
12		.4	3.	.2 ○	1.	
13		.4	.3	○	1. 2	
14			.4	.3 1. ○	2.	
15			2.	○	.4	.1
16			.2 1. ○	○	.4	3.
17				○	.1 2. 3.	.4
18			.1	3. ○	2.	
19			3.	.2 ○	1.	
20	.2 ●		.3	.1 ○		4.
21	1. ○			.3 ○	2.	4.
22	.1 ●			2. ○	.3	4.
23			.2	1. ○	4.	3.
24			4.	○	.1	.2
25		4.		.1 ○	2.	
26		4.	3.	2. ○	1.	
27	4.		.3	.1 ○	2.	
28	.4			.3 ○	1.	2.
29		.4		2. ○	.3	
30		.4	.2	1. ○		.3
31			.4	○	.1 2.	3.

This Table represents, at 6^h 15^m after *Mean Noon* of each day of the month, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (○) in the centre of the disc of the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to designate the Satellites from each other; and their positions are such as to indicate the directions of their motions, which are in all cases to be considered as *towards the point* at its greatest elongation, the point is placed above or below the white circle (○) at the left or right hand of the page, denotes that the Satellite is *on* the disc of Jupiter, and a black circle (●) that it is either *before* or *behind* Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

LITE.	Day of the Month.	Mean Time.			Sidereal Time.			PHASE as seen in an inverting Telescope.	
		h	m	s	h	m	s		
	1	0	44	17.2	13	24	35.4	Em.	
	2	19	12	59.0	8	0	15.9	Em.	
	4	13	41	44.4	2	36	0.0	Em.	
	6	8	10	26.3	21	11	40.6	Em.	
	8	2	39	9.5	15	47	22.4	Em.	
	9	21	7	50.5	10	23	2.1	Em.	
	11	15	36	34.8	4	58	45.1	Em.	
	13	10	5	16.2	23	34	25.2	Em.	
	15	4	33	57.9	18	10	5.6	Em.	 e *
	16	23	2	38.2	12	45	44.6	Em.	
	18	17	31	21.3	7	21	26.4	Em.	
	20	12	0	2.0	1	57	5.7	Em.	
	22	6	28	42.7	20	32	45.1	Em.	
	24	0	57	22.2	15	8	23.3	Em.	
	25	19	26	4.2	9	44	3.9	Em.	
	27	13	54	44.1	4	19	42.5	Em.	
	29	8	23	23.4	22	55	20.6	Em.	
	31	2	52	2.1	17	30	57.9	Em.	
	2	14	10	35.8	2	57	3.1	Em.	
	6	3	29	56.7	16	30	24.9	Em.	
	9	16	48	21.3	6	2	50.4	Em.	 e *
	13*	6	7	45.1	19	36	15.1	Em.	
	16	19	26	10.0	9	8	40.9	Em.	
	20	8	45	35.8	22	42	7.7	Em.	
	23	22	3	59.9	12	14	32.6	Em.	
	27	11	23	27.3	1	48	0.9	Em.	
	31	0	41	49.9	15	20	24.4	Em.	
I.	7	10	19	28.4	23	25	0.4	Im.	
	7	13	4	25.3	2	10	24.5	Em.	
	14	14	18	28.0	3	52	15.1	Im.	 i * e *
	14	17	4	19.3	6	38	33.7	Em.	
	21	18	17	33.4	8	19	35.7	Im.	
	21	21	4	17.5	11	6	47.2	Em.	
	28	22	17	11.4	12	47	29.0	Im.	
	29	1	4	48.8	15	35	33.9	Em.	

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOWS.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
	d h m	d h m	d h m	d h m	d h m	d h m
I.	2 4 37		1 7 14	1 9 30	1 8 25	1 8 25
	4 23 13		3 1 51	3 4 6	3 3 1	3 3 1
	6 17 50		5 20 27	5 22 43	5 21 36	5 21 36
	7 12 27		7 15 4	7 17 20	7 16 12	7 16 12
	9 7 3	In	8 9 41	8 11 57	8 10 48	8 10 48
	11 1 40		10 4 18	10 6 34	10 5 24	10 5 24
	13 20 17		12 22 55	12 1 10	12 0 0	12 0 0
	15 14 54	the	14 17 32	14 19 47	14 18 35	14 18 35
	16 9 31		15 12 9	16 14 24	15 13 11	15 13 11
	18 4 7		17 6 46	17 9 2	17 7 47	17 7 47
	20 22 44	Shadow.	19 1 23	19 3 38	19 2 23	19 2 23
	22 17 21		21 20 0	21 22 16	21 20 59	21 20 59
	23 11 58		23 14 37	23 16 53	23 15 34	23 15 34
	25 6 35		24 9 14	24 11 30	24 10 10	24 10 10
	27 1 12		26 3 51	26 6 7	26 4 46	26 4 46
	29 19 49		28 22 28	28 0 44	28 23 22	28 23 22
	30 14 26		30 17 5	30 19 21	30 17 57	30 17 57
			31 11 43	31 13 59	31 12 33	31 12 33
II.	2 21 54		4 17 4	4 19 44	4* 19 24	4 19 24
	5 11 31		7 6 39	7 9 20	7 8 56	7 8 56
	9 1 7	In	11 20 15	11 22 56	11 22 28	11 22 28
	13 14 45		14 9 51	14 12 32	14 11 59	14 11 59
	16 4 22		18 23 27	18 2 8	18 1 30	18 1 30
	20 18 0	the	21 13 3	22 15 45	22 15 2	22 15 2
	23 7 37		25 2 40	25 5 22	25 4 33	25 4 33
	27 21 16	Shadow.	29 16 17	29 18 59	29 18 4	29 18 4
	30 10 54					
III.	7 18 45	7 21 40	3 4 30	3 7 25	3 9 11	3 9 11
	14 23 30	14 2 26	10 9 14	10 12 10	11 13 40	11 13 40
	21 4 17	21 7 15	18 14 1	18 16 58	18 18 8	18 18 8
	28 9 8	28 12 6	25 18 50	25 21 48	25 22 36	25 22 36

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h .809526.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D		Days.		
1	+1 ^h .2664	+0 ^h .4842	+0 ^h .0071	-0 ^h .7747	11 17 57 ^s .68	192	273	.747
2	1 ^h .2652	0 ^h .5308	0 ^h .0080	0 ^h .7738	11 14 1 ^s .77	193	274	.750
3	1 ^h .2639	0 ^h .5729	0 ^h .0089	0 ^h .7728	11 10 5 ^s .86	194	275	.753
4	+1 ^h .2624	+0 ^h .6111	+0 ^h .0098	-0 ^h .7718	11 6 9 ^s .96	195	276	.756
5	1 ^h .2608	0 ^h .6461	0 ^h .0107	0 ^h .7707	11 2 14 ^s .05	196	277	.758
6	1 ^h .2591	0 ^h .6784	0 ^h .0116	0 ^h .7696	10 58 18 ^s .14	197	278	.761
7	+1 ^h .2572	+0 ^h .7084	+0 ^h .0125	-0 ^h .7684	10 54 22 ^s .23	198	279	.764
8	1 ^h .2552	0 ^h .7363	0 ^h .0134	0 ^h .7672	10 50 26 ^s .33	199	280	.767
9	1 ^h .2530	0 ^h .7624	0 ^h .0143	0 ^h .7660	10 46 30 ^s .42	200	281	.769
10	+1 ^h .2507	+0 ^h .7870	+0 ^h .0153	-0 ^h .7647	10 42 34 ^s .51	201	282	.772
11	1 ^h .2483	0 ^h .8101	0 ^h .0162	0 ^h .7634	10 38 38 ^s .60	202	283	.775
12	1 ^h .2457	0 ^h .8320	0 ^h .0171	0 ^h .7620	10 34 42 ^s .69	203	284	.778
13	+1 ^h .2430	+0 ^h .8527	+0 ^h .0181	-0 ^h .7606	10 30 46 ^s .79	204	285	.780
14	1 ^h .2401	0 ^h .8723	0 ^h .0190	0 ^h .7591	10 26 50 ^s .88	205	286	.783
15	1 ^h .2370	0 ^h .8909	0 ^h .0200	0 ^h .7576	10 22 54 ^s .97	206	287	.786
16	+1 ^h .2338	+0 ^h .9087	+0 ^h .0210	-0 ^h .7560	10 18 59 ^s .06	207	288	.789
17	1 ^h .2305	0 ^h .9257	0 ^h .0219	0 ^h .7544	10 15 3 ^s .15	208	289	.791
18	1 ^h .2270	0 ^h .9419	0 ^h .0229	0 ^h .7528	10 11 7 ^s .24	209	290	.794
19	+1 ^h .2233	+0 ^h .9574	+0 ^h .0239	-0 ^h .7511	10 7 11 ^s .34	210	291	.797
20	1 ^h .2195	0 ^h .9723	0 ^h .0249	0 ^h .7494	10 3 15 ^s .43	211	292	.799
21	1 ^h .2155	0 ^h .9865	0 ^h .0259	0 ^h .7477	9 59 19 ^s .52	212	293	.802
22	+1 ^h .2113	+1 ^h .0002	+0 ^h .0269	-0 ^h .7459	9 55 23 ^s .61	213	294	.805
23	1 ^h .2070	1 ^h .0133	0 ^h .0279	0 ^h .7441	9 51 27 ^s .70	214	295	.808
24	1 ^h .2024	1 ^h .0259	0 ^h .0289	0 ^h .7422	9 47 31 ^s .79	215	296	.810
25	+1 ^h .1977	+1 ^h .0381	+0 ^h .0299	-0 ^h .7403	9 43 35 ^s .89	216	297	.813
26	1 ^h .1928	1 ^h .0498	0 ^h .0310	0 ^h .7384	9 39 39 ^s .98	217	298	.816
27	1 ^h .1877	1 ^h .0610	0 ^h .0320	0 ^h .7365	9 35 44 ^s .07	218	299	.819
28	+1 ^h .1824	+1 ^h .0719	+0 ^h .0331	-0 ^h .7345	9 31 48 ^s .16	219	300	.821
29	1 ^h .1769	1 ^h .0824	0 ^h .0341	0 ^h .7325	9 27 52 ^s .25	220	301	.824
30	1 ^h .1712	1 ^h .0925	0 ^h .0352	0 ^h .7305	9 23 56 ^s .34	221	302	.827
	1 ^h .1653	1 ^h .1022	0 ^h .0363	0 ^h .7284	9 20 0 ^s .43	222	303	.830
		116	+0 ^h .0374	-0 ^h .7263	9 16 4 ^s .52	223	304	.832

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be subtracted from Apparent Time.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		
		^h ^m ^s	^s	[°] ['] ["]	["]	^m ^s	^m ^s
Mon.	1	14 26 4.84	9.819	S. 14 28 54.9	47.78	1 6.90	16 16.61
Tues.	2	14 30 0.50	9.853	14 48 1.7	47.19	1 7.01	16 17.51
Wed.	3	14 33 56.98	9.888	15 6 54.2	46.57	1 7.13	16 17.58
Thur.	4	14 37 54.29	9.923	15 25 32.0	45.94	1 7.24	16 16.83
Frid.	5	14 41 52.45	9.959	15 43 54.6	45.29	1 7.36	16 15.22
Sat.	6	14 45 51.47	9.995	16 2 1.6	44.62	1 7.47	16 12.78
Sun.	7	14 49 51.34	10.030	16 19 52.6	43.94	1 7.59	16 9.47
Mon.	8	14 53 52.07	10.066	16 37 27.2	43.25	1 7.71	16 5.31
Tues.	9	14 57 53.66	10.103	16 54 45.1	42.52	1 7.83	16 0.28
Wed.	10	15 1 56.13	10.139	17 11 45.7	41.79	1 7.95	15 54.39
Thur.	11	15 5 59.46	10.175	17 28 28.6	41.03	1 8.07	15 47.63
Frid.	12	15 10 3.65	10.210	17 44 53.3	40.26	1 8.19	15 40.02
Sat.	13	15 14 8.70	10.246	18 0 59.6	39.47	1 8.31	15 31.55
Sun.	14	15 18 14.61	10.281	18 16 47.0	38.67	1 8.43	15 22.23
Mon.	15	15 22 21.36	10.316	18 32 15.0	37.85	1 8.54	15 12.06
Tues.	16	15 26 28.95	10.351	18 47 23.3	37.00	1 8.66	15 1.05
Wed.	17	15 30 37.38	10.385	19 2 11.4	36.15	1 8.77	14 49.21
Thur.	18	15 34 46.62	10.419	19 16 39.1	35.28	1 8.89	14 36.56
Frid.	19	15 38 56.68	10.453	19 30 45.8	34.40	1 9.00	14 23.10
Sat.	20	15 43 7.54	10.486	19 44 31.3	33.50	1 9.12	14 8.83
Sun.	21	15 47 19.20	10.518	19 57 55.2	32.58	1 9.23	13 53.77
Mon.	22	15 51 31.64	10.550	20 10 57.1	31.65	1 9.34	13 37.94
Tues.	23	15 55 44.85	10.582	20 23 36.7	30.70	1 9.45	13 21.33
Wed.	24	15 59 58.82	10.613	20 35 53.6	29.75	1 9.56	13 3.96
Thur.	25	16 4 13.54	10.644	20 47 47.5	28.78	1 9.66	12 45.85
Frid.	26	16 8 29.00	10.675	20 59 18.2	27.79	1 9.76	12 26.99
Sat.	27	16 12 45.19	10.705	21 10 25.1	26.80	1 9.86	12 7.41
Sun.	28	16 17 2.10	10.734	21 21 8.3	25.78	1 9.96	11 47.12
Mon.	29	16 21 19.71	10.762	21 31 27.1	24.76	1 10.05	11 26.13
Tues.	30	16 25 38.00	10.790	21 41 21.3	23.73	1 10.14	11 4.46
Wed.	31	16 29 56.96		S. 21 50 50.7		1 10.23	11

* Mean Time of the Semidiameter passing may be found by subtracting 0^m 19^{fs}

AT MEAN NOON.

Day of the Week.	Day of the Month.	THE SUN'S			Equation of Time, to be added to Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
on.	1	14 26 7.50	S. 14 29 7.9	16 9.0	16 16.62	14 42 24.13
es.	2	14 30 3.17	14 48 14.6	16 9.2	16 17.51	14 46 20.69
ed.	3	14 33 59.66	15 7 7.0	16 9.5	16 17.58	14 50 17.24
ur.	4	14 37 56.98	15 25 44.5	16 9.7	16 16.81	14 54 13.80
id.	5	14 41 55.15	15 44 6.9	16 9.9	16 15.20	14 58 10.35
t.	6	14 45 54.16	16 2 13.7	16 10.2	16 12.74	15 2 6.91
n.	7	14 49 54.03	16 20 4.6	16 10.4	16 9.43	15 6 3.46
on.	8	14 53 54.76	16 37 38.9	16 10.6	16 5.26	15 10 0.02
es.	9	14 57 56.35	16 54 56.5	16 10.8	16 0.22	15 13 56.58
ed.	10	15 1 58.81	17 11 56.8	16 11.1	15 54.32	15 17 53.13
ur.	11	15 6 2.13	17 28 39.5	16 11.3	15 47.55	15 21 49.69
id.	12	15 10 6.31	17 45 3.9	16 11.5	15 39.93	15 25 46.24
t.	13	15 14 11.35	18 1 9.9	16 11.7	15 31.45	15 29 42.80
n.	14	15 18 17.24	18 16 57.0	16 11.9	15 22.12	15 33 39.36
on.	15	15 22 23.97	18 32 24.6	16 12.1	15 11.94	15 37 35.91
es.	16	15 26 31.54	18 47 32.6	16 12.3	15 0.93	15 41 32.47
ed.	17	15 30 39.94	19 2 20.5	16 12.5	14 49.09	15 45 29.03
ur.	18	15 34 49.15	19 16 47.8	16 12.7	14 36.43	15 49 25.58
id.	19	15 38 59.18	19 30 54.2	16 12.9	14 22.96	15 53 22.14
t.	20	15 43 10.01	19 44 39.3	16 13.1	14 8.69	15 57 18.70
n.	21	15 47 21.63	19 58 2.9	16 13.3	13 53.62	16 1 15.25
on.	22	15 51 34.03	20 11 4.4	16 13.5	13 37.78	16 5 11.81
es.	23	15 55 47.20	20 23 43.6	16 13.7	13 21.17	16 9 8.37
ed.	24	16 0 1.13	20 36 0.2	16 13.9	13 3.80	16 13 4.93
ur.	25	16 4 15.80	20 47 53.8	16 14.1	12 45.68	16 17 1.48
id.	26	16 8 31.21	20 59 24.0	16 14.3	12 26.83	16 20 58.04
t.	27	16 12 47.35	21 10 30.6	16 14.4	12 7.25	16 24 54.60
n.	28	16 17 4.21	21 21 13.4	16 14.6	11 46.95	16 28 51.16
on.	29	16 21 21.76	21 31 31.9	16 14.7	11 25.96	16 32 47.71
es.	30	16 25 39.98	21 41 25.8	16 14.9	11 4.29	16 36 44.27
		88	S. 21 50 54.9	16 15.1	10 41.95	16 40 40.83

Noon may be assumed the same as that for *Mean Noon*.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Par.	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Midnight.
1	218 55 23.6	N.0 38	9.9963677	15 59.9	16 2.7	58 42.4	58
2	219 55 30.9	0 29	9.9962589	16 5.1	16 6.9	59 1.5	59
3	220 55 40.2	0 19	9.9961517	16 8.1	16 9.0	59 12.7	59
4	221 55 51.5	N.0 06	9.9960459	16 9.4	16 9.3	59 17.3	59
5	222 56 5.0	S.0 07	9.9959415	16 9.0	16 8.3	59 15.8	59
6	223 56 20.5	0 19	9.9958384	16 7.2	16 5.9	59 9.3	59
7	224 56 38.0	0 31	9.9957364	16 4.4	16 2.6	58 59.0	58
8	225 56 57.5	0 42	9.9956356	16 0.5	15 58.1	58 44.8	58
9	226 57 19.1	0 51	9.9955358	15 55.5	15 52.5	58 26.4	58
10	227 57 42.6	0 57	9.9954370	15 49.3	15 45.8	58 3.8	57
11	228 58 8.0	0 60	9.9953391	15 42.0	15 38.0	57 36.9	57
12	229 58 35.1	0 61	9.9952420	15 33.7	15 29.3	57 6.3	56
13	230 59 3.9	0 59	9.9951458	15 24.7	15 20.1	56 33.4	56
14	231 59 34.4	0 53	9.9950503	15 15.4	15 10.9	55 59.4	55
15	233 0 6.4	0 44	9.9949557	15 6.6	15 2.4	55 26.9	55
16	234 0 39.9	0 34	9.9948620	14 58.5	14 55.0	54 57.4	54
17	235 1 14.8	0 21	9.9947693	14 52.0	14 49.5	54 33.3	54
18	236 1 50.9	S.0 07	9.9946778	14 47.5	14 46.1	54 16.8	54
19	237 2 28.2	N.0 07	9.9945876	14 45.4	14 45.3	54 9.1	54
20	238 3 6.8	0 20	9.9944988	14 46.1	14 47.5	54 11.6	54
21	239 3 46.5	0 33	9.9944116	14 49.7	14 52.5	54 24.8	54
22	240 4 27.3	0 44	9.9943262	14 56.0	15 0.2	54 48.2	55
23	241 5 9.2	0 52	9.9942426	15 5.1	15 10.4	55 21.3	55
24	242 5 52.2	0 59	9.9941610	15 16.3	15 22.6	56 2.5	56
25	243 6 36.3	0 62	9.9940815	15 29.0	15 35.6	56 49.3	57
26	244 7 21.5	0 62	9.9940042	15 42.3	15 48.8	57 38.0	58
27	245 8 7.8	0 60	9.9939292	15 55.1	16 0.9	58 24.8	58
28	246 8 55.4	0 54	9.9938567	16 6.3	16 11.0	59 6.1	59
29	247 9 44.1	0 45	9.9937867	16 15.0	16 18.2	59 38.0	59
30	248 10 33.9	0 35	9.9937192	16 20.5	16 21.9	59 58.0	60
31	249 11 25.1	N.0 24	9.9936542	16 22.3	16 21.9	60 4.9	60

MEAN TIME.

Day of the Month.		THE MOON'S							
		Longitude.		Latitude.		Age.		Meridian	
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.		
		[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	[°] ['] ["]	^d	^h ^m		
n.	1	67 41 49·9	74 42 12·2	N.4 9 54·6	N.3 47 35·1	17·8	14 12·7		
s.	2	81 44 2·6	88 46 54·5	3 21 42·1	2 52 38·3	18·8	15 14·2		
d.	3	95 50 24·5	102 54 12·2	2 20 51·1	1 46 50·0	19·8	16 14·7		
ar.	4	109 58 2·5	117 1 42·7	N.1 11 8·7	N.0 34 20·7	20·8	17 12·3		
d.	5	124 5 3·3	131 7 58·0	S.0 2 58·3	S.0 40 13·1	21·8	18 6·4		
.	6	138 10 20·9	145 12 7·7	1 16 48·1	1 52 9·3	22·8	18 57·2		
t.	7	152 13 14·0	159 13 31·6	2 25 44·1	2 57 1·7	23·8	19 45·8		
n.	8	166 12 53·8	173 11 8·5	3 25 34·1	3 50 56·0	24·8	20 33·2		
s.	9	180 8 2·8	187 3 19·5	4 12 46·3	4 30 46·9	25·8	21 20·8		
d.	10	193 56 39·7	200 47 43·7	4 44 44·4	4 54 30·5	26·8	22 9·5		
ar.	11	207 36 8·1	214 21 31·1	5 0 0·1	5 1 13·9	27·8	23 0·1		
d.	12	221 3 30·9	227 41 48·4	4 58 17·0	4 51 17·8	28·8	23 52·6		
.	13	234 16 7·0	240 46 14·2	4 40 29·2	4 26 6·2	0·3	6		
n.	14	247 12 1·6	253 33 26·5	4 8 27·1	3 47 51·7	1·3	0 46·5		
n.	15	259 50 30·9	266 3 23·4	3 24 40·6	2 59 15·7	2·3	1 40·7		
s.	16	272 12 16·3	278 17 29·1	2 31 58·5	2 3 9·7	3·3	2 33·6		
d.	17	284 19 24·3	290 18 29·8	1 33 10·5	S.1 2 20·7	4·3	3 24·2		
ar.	18	296 15 16·6	302 10 19·1	S.0 30 59·3	N.0 0 34·8	5·3	4 11·9		
d.	19	308 4 14·2	313 57 41·2	N.0 32 4·3	1 3 11·9	6·3	4 56·8		
.	20	319 51 20·7	325 45 53·8	1 33 40·7	2 3 14·3	7·3	5 39·3		
n.	21	331 42 1·6	337 40 26·2	2 31 36·0	2 58 28·7	8·3	6 20·4		
n.	22	343 41 48·2	349 46 45·1	3 23 35·7	3 46 38·5	9·3	7 1·1		
s.	23	355 55 54·0	2 9 46·8	4 7 19·7	4 25 20·6	10·3	7 42·4		
d.	24	8 28 53·0	14 53 33·6	4 40 22·5	4 52 7·0	11·3	8 25·7		
ar.	25	21 24 6·2	28 0 39·9	5 0 16·3	5 4 34·0	12·3	9 12·0		
d.	26	34 43 16·2	41 31 46·9	5 4 45·6	5 0 39·2	13·3	10 2·7		
.	27	48 25 57·4	55 25 21·6	4 52 7·5	4 39 8·5	14·3	10 58·2		
n.	28	62 29 29·1	69 37 39·3	4 21 44·2	4 0 4·5	15·3	11 58·3		
n.	29	76 49 9·8	84 3 11·2	3 34 24·7	3 5 7·2	16·3	13 1·3		
s.	30	91 18 55·2	98 35 33·9	2 32 40·4	1 57 37·0	17·3	14 4·4		
d.	31	105 52 21·1	113 8 34·3	N.1 20 34·6	N.0 42 13·7	18·3	15 5·1		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.
MONDAY 1.				WEDNESDAY 3.		
0	^h 4 ^m 20 ^s 37.75	N.25 43 18.4	40.85	0	^h 6 ^m 25 ^s 54.53	N.25 40 39.3
1	4 23 11.75	25 47 23.5	39.17	1	6 28 30.31	25 36 14.2
2	4 25 45.99	25 51 18.5	37.48	2	6 31 5.92	25 31 38.7
3	4 28 20.46	25 55 3.4	35.80	3	6 33 41.34	25 26 52.9
4	4 30 55.16	25 58 38.2	34.08	4	6 36 16.57	25 21 56.8
5	4 33 30.08	26 2 2.7	32.37	5	6 38 51.59	25 16 50.5
6	4 36 5.22	26 5 16.9	30.65	6	6 41 26.42	25 11 34.1
7	4 38 40.55	26 8 20.8	28.92	7	6 44 1.03	25 6 7.6
8	4 41 16.08	26 11 14.3	27.18	8	6 46 35.42	25 0 31.0
9	4 43 51.80	26 13 57.4	25.45	9	6 49 9.58	24 54 44.4
10	4 46 27.70	26 16 30.1	23.68	10	6 51 43.52	24 48 47.9
11	4 49 3.77	26 18 52.2	21.93	11	6 54 17.21	24 42 41.6
12	4 51 40.00	26 21 3.8	20.17	12	6 56 50.66	24 36 25.4
13	4 54 16.38	26 23 4.8	18.40	13	6 59 23.86	24 29 59.5
14	4 56 52.91	26 24 55.2	16.63	14	7 1 56.80	24 23 23.9
15	4 59 29.57	26 26 35.0	14.85	15	7 4 29.49	24 16 38.8
16	5 2 6.35	26 28 4.1	13.07	16	7 7 1.90	24 9 44.1
17	5 4 43.26	26 29 22.5	11.28	17	7 9 34.04	24 2 39.9
18	5 7 20.27	26 30 30.2	9.48	18	7 12 5.91	23 55 26.3
19	5 9 57.37	26 31 27.1	7.68	19	7 14 37.50	23 48 3.4
20	5 12 34.57	26 32 13.2	5.90	20	7 17 8.80	23 40 31.2
21	5 15 11.85	26 32 48.6	4.08	21	7 19 39.81	23 32 49.8
22	5 17 49.19	26 33 13.1	2.30	22	7 22 10.52	23 24 59.3
23	5 20 26.60	N.26 33 26.9	0.48	23	7 24 40.93	N.23 16 59.8
TUESDAY 2.				THURSDAY 4.		
0	5 23 4.06	N.26 33 29.8	1.32	0	7 27 11.04	N.23 8 51.3
1	5 25 41.56	26 33 21.9	3.13	1	7 29 40.85	23 0 33.9
2	5 28 19.10	26 33 3.1	4.95	2	7 32 10.34	22 52 7.7
3	5 30 56.66	26 32 33.4	6.75	3	7 34 39.53	22 43 32.8
4	5 33 34.23	26 31 52.9	8.55	4	7 37 8.39	22 34 49.3
5	5 36 11.80	26 31 1.6	10.37	5	7 39 36.94	22 25 57.2
6	5 38 49.38	26 29 59.4	12.18	6	7 42 5.17	22 16 56.6
7	5 41 26.93	26 28 46.3	13.98	7	7 44 33.07	22 7 47.7
8	5 44 4.47	26 27 22.4	15.78	8	7 47 0.65	21 58 30.4
9	5 46 41.97	26 25 47.7	17.60	9	7 49 27.90	21 49 5.0
10	5 49 19.43	26 24 2.1	19.38	10	7 51 54.82	21 39 31.4
11	5 51 56.84	26 22 5.8	21.20	11	7 54 21.40	21 29 49.7
12	5 54 34.19	26 19 58.6	22.98	12	7 56 47.66	21 20 0.1
13	5 57 11.47	26 17 40.7	24.78	13	7 59 13.58	21 10 2.6
14	5 59 48.68	26 15 12.0	26.57	14	8 1 39.16	20 59 57.4
15	6 2 25.79	26 12 32.6	28.37	15	8 4 4.40	20 49 44.5
16	6 5 2.81	26 9 42.4	30.13	16	8 6 29.31	20 39 24.0
17	6 7 39.73	26 6 41.6	31.92	17	8 8 53.87	20 28 55.9
18	6 10 16.53	26 3 30.1	33.68	18	8 11 18.10	20 18 20.5
19	6 12 53.22	26 0 8.0	35.45	19	8 13 41.99	20 7 37.7
20	6 15 29.77	25 56 35.3	37.20	20	8 16 5.53	19 56 47.7
21	6 18 6.19	25 52 52.1	38.97	21	8 18 28.74	19 45 50.5
22	6 20 42.46	25 48 58.3	40.72	22	8 20 51.60	19 34 46.3
23	6 23 18.58	25 44 54.0	42.45	23	8 23 14.12	19 23 35.1
24	6 25 54.53	N.25 40 39.3		24	8 25 36.30	N.19 12 17.0

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
FRIDAY 5.				SUNDAY 7.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	8 25 36.30	N. 19 12 17.0	114.15	0	10 13 18.89	N. 8 25 29.7	150.25
1	8 27 58.14	19 0 52.1	115.25	1	10 15 27.25	8 10 28.2	150.63
2	8 30 19.64	18 49 20.6	116.35	2	10 17 35.41	7 55 24.4	151.00
3	8 32 40.81	18 37 42.5	117.43	3	10 19 43.40	7 40 18.4	151.37
4	8 35 1.64	18 25 57.9	118.52	4	10 21 51.20	7 25 10.2	151.70
5	8 37 22.13	18 14 6.8	119.55	5	10 23 58.82	7 10 0.0	152.03
6	8 39 42.29	18 2 9.5	120.60	6	10 26 6.27	6 54 47.8	152.35
7	8 42 2.11	17 50 5.9	121.62	7	10 28 13.56	6 39 33.7	152.65
8	8 44 21.61	17 37 56.2	122.62	8	10 30 20.68	6 24 17.8	152.93
9	8 46 40.77	17 25 40.5	123.62	9	10 32 27.64	6 9 0.2	153.20
10	8 48 59.61	17 13 18.8	124.58	10	10 34 34.45	5 53 41.0	153.47
11	8 51 18.11	17 0 51.3	125.55	11	10 36 41.11	5 38 20.2	153.70
12	8 53 36.30	16 48 18.0	126.48	12	10 38 47.63	5 22 58.0	153.93
13	8 55 54.16	16 35 39.1	127.42	13	10 40 54.01	5 7 34.4	154.17
14	8 58 11.70	16 22 54.6	128.33	14	10 43 0.26	4 52 9.4	154.35
15	9 0 28.93	16 10 4.6	129.22	15	10 45 6.38	4 36 43.3	154.55
16	9 2 45.83	15 57 9.3	130.10	16	10 47 12.37	4 21 16.0	154.72
17	9 5 2.43	15 44 8.7	130.97	17	10 49 18.25	4 5 47.7	154.88
18	9 7 18.71	15 31 2.9	131.82	18	10 51 24.01	3 50 18.4	155.02
19	9 9 34.68	15 17 52.0	132.65	19	10 53 29.65	3 34 48.3	155.17
20	9 11 50.35	15 4 36.1	133.48	20	10 55 35.19	3 19 17.3	155.27
21	9 14 5.72	14 51 15.2	134.27	21	10 57 40.64	3 3 45.7	155.38
22	9 16 20.78	14 37 49.6	135.07	22	10 59 45.98	2 48 13.4	155.48
23	9 18 35.55	N. 14 24 19.2	135.83	23	11 1 51.23	N. 2 32 40.5	155.55
SATURDAY 6.				MONDAY 8.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	9 20 50.03	N. 14 10 44.2	136.58	0	11 3 56.40	N. 2 17 7.2	155.62
1	9 23 4.21	13 57 4.7	137.33	1	11 6 1.48	2 1 33.5	155.67
2	9 25 18.11	13 43 20.7	138.07	2	11 8 6.48	1 45 59.5	155.70
3	9 27 31.73	13 29 32.3	138.77	3	11 10 11.42	1 30 25.3	155.72
4	9 29 45.06	13 15 39.7	139.47	4	11 12 16.28	1 14 51.0	155.73
5	9 31 58.12	13 1 42.9	140.15	5	11 14 21.08	0 59 16.6	155.73
6	9 34 10.91	12 47 42.0	140.80	6	11 16 25.81	0 43 42.2	155.72
7	9 36 23.42	12 33 37.2	141.47	7	11 18 30.50	0 28 7.9	155.68
8	9 38 35.68	12 19 28.4	142.10	8	11 20 35.13	N. 0 12 33.8	155.65
9	9 40 47.67	12 5 15.8	142.72	9	11 22 39.72	S. 0 3 0.1	155.58
10	9 42 59.40	11 50 59.5	143.33	10	11 24 44.27	0 18 33.6	155.52
11	9 45 10.88	11 36 39.5	143.92	11	11 26 48.79	0 34 6.7	155.43
12	9 47 22.11	11 22 16.0	144.50	12	11 28 53.27	0 49 39.3	155.33
13	9 49 33.09	11 7 49.0	145.05	13	11 30 57.73	1 5 11.3	155.23
14	9 51 43.84	10 53 18.7	145.60	14	11 33 2.17	1 20 42.7	155.12
15	9 53 54.34	10 38 45.1	146.13	15	11 35 6.59	1 36 13.4	154.97
16	9 56 4.62	10 24 8.3	146.65	16	11 37 10.99	1 51 43.2	154.82
17	9 58 14.66	10 9 28.4	147.15	17	11 39 15.39	2 7 12.1	154.67
18	10 0 24.48	9 54 45.5	147.65	18	11 41 19.79	2 22 40.1	154.47
19	10 2 34.07	9 39 59.6	148.10	19	11 43 24.19	2 38 6.9	154.20
20	10 4 43.45	9 25 11.0	148.58	20	11 45 28.59	2 53 32.7	154.08
21	10 6 52.62	9 10 19.5	149.00	21	11 47 33.00	3 8 57.2	153.87
22	10 9 1.58	8 55 25.5	149.45	22	11 49 37.43	3 24 20.4	153.65
23	10 11 10.33	8 40 28.8	149.85	23	11 51 41.88	3 39 42.3	153.40
24	10 13 18.89	N. 8 25 29.7		24	11 53 46.35	S. 3 55 2.7	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
TUESDAY 9.				THURSDAY 11.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	11 53 46.35	S. 3 55 2.7	153.13	0	13 35 3.43	S. 15 17 26.1
1	11 55 50.84	4 10 21.5	152.88	1	13 37 13.48	15 30 0.5
2	11 57 55.37	4 25 38.8	152.58	2	13 39 23.72	15 42 29.7
3	11 59 59.93	4 40 54.3	152.30	3	13 41 34.14	15 54 53.5
4	12 2 4.54	4 56 8.1	151.98	4	13 43 44.74	16 7 11.9
5	12 4 9.18	5 11 20.0	151.67	5	13 45 55.52	16 19 24.9
6	12 6 13.88	5 26 30.0	151.33	6	13 48 6.49	16 31 32.3
7	12 8 18.63	5 41 38.0	150.97	7	13 50 17.65	16 43 34.1
8	12 10 23.43	5 56 43.8	150.63	8	13 52 28.99	16 55 30.2
9	12 12 28.29	6 11 47.6	150.25	9	13 54 40.53	17 7 20.5
10	12 14 33.22	6 26 49.1	149.85	10	13 56 52.25	17 19 5.1
11	12 16 38.22	6 41 48.2	149.47	11	13 59 4.16	17 30 43.7
12	12 18 43.29	6 56 45.0	149.05	12	14 1 16.26	17 42 16.4
13	12 20 48.44	7 11 39.3	148.62	13	14 3 28.55	17 53 43.1
14	12 22 53.66	7 26 31.0	148.20	14	14 5 41.04	18 5 3.7
15	12 24 58.98	7 41 20.2	147.73	15	14 7 53.71	18 16 18.1
16	12 27 4.38	7 56 6.6	147.27	16	14 10 6.58	18 27 26.3
17	12 29 9.87	8 10 50.2	146.80	17	14 12 19.64	18 38 28.2
18	12 31 15.45	8 25 31.0	146.30	18	14 14 32.89	18 49 23.7
19	12 33 21.14	8 40 8.8	145.80	19	14 16 46.33	19 0 12.8
20	12 35 26.93	8 54 43.6	145.30	20	14 18 59.96	19 10 55.5
21	12 37 32.82	9 9 15.4	144.75	21	14 21 13.78	19 21 31.5
22	12 39 38.83	9 23 43.9	144.23	22	14 23 27.80	19 32 1.0
23	12 41 44.95	S. 9 38 9.3	143.67	23	14 25 42.00	S. 19 42 23.8
WEDNESDAY 10.				FRIDAY 12.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	12 43 51.18	S. 9 52 31.3	143.10	0	14 27 56.39	S. 19 52 39.9
1	12 45 57.54	10 6 49.9	142.53	1	14 30 10.97	20 2 49.2
2	12 48 4.01	10 21 5.1	141.93	2	14 32 25.74	20 12 51.6
3	12 50 10.62	10 35 16.7	141.33	3	14 34 40.70	20 22 47.1
4	12 52 17.35	10 49 24.7	140.72	4	14 36 55.84	20 32 35.6
5	12 54 24.22	11 3 29.0	140.10	5	14 39 11.17	20 42 17.1
6	12 56 31.22	11 17 29.6	139.43	6	14 41 26.68	20 51 51.5
7	12 58 38.36	11 31 26.2	138.78	7	14 43 42.37	21 1 18.7
8	13 0 45.64	11 45 18.9	138.13	8	14 45 58.23	21 10 38.8
9	13 2 53.07	11 59 7.7	137.43	9	14 48 14.28	21 19 51.6
10	13 5 0.64	12 12 52.3	136.75	10	14 50 30.50	21 28 57.1
11	13 7 8.37	12 26 32.8	136.03	11	14 52 46.90	21 37 55.2
12	13 9 16.24	12 40 9.0	135.32	12	14 55 3.47	21 46 45.9
13	13 11 24.27	12 53 40.9	134.58	13	14 57 20.21	21 55 29.2
14	13 13 32.45	13 7 8.4	133.85	14	14 59 37.12	22 4 4.9
15	13 15 40.79	13 20 31.5	133.08	15	15 1 54.19	22 12 33.1
16	13 17 49.30	13 33 50.0	132.32	16	15 4 11.42	22 20 53.7
17	13 19 57.97	13 47 3.9	131.55	17	15 6 28.82	22 29 6.6
18	13 22 6.80	14 0 13.2	130.73	18	15 8 46.37	22 37 11.8
19	13 24 15.81	14 13 17.6	129.95	19	15 11 4.08	
20	13 26 24.98	14 26 17.3	129.12	20	15 13 21.93	
21	13 28 34.33	14 39 12.0	128.30	21	15 15 39.94	
22	13 30 43.85	14 52 1.8	127.45	22	15 17 58.10	
23	13 32 53.55	15 4 46.5	126.60	23	15 20 16.39	
24	13 35 3.43	S. 15 17 26.1		24	15 22 34.83	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
SATURDAY 13.				MONDAY 15.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	15 22 34.83	S. 23 22 58.5	71.67	0	17 14 37.78	S. 26 28 23.3	3.52
1	15 24 53.41	23 30 8.5	70.32	1	17 16 57.39	26 28 44.4	2.10
2	15 27 12.11	23 37 10.4	68.97	2	17 19 16.88	26 28 57.0	0.68
3	15 29 30.95	23 44 4.2	67.62	3	17 21 36.26	26 29 1.1	0.73
4	15 31 49.90	23 50 49.9	66.25	4	17 23 55.53	26 28 56.7	2.15
5	15 34 8.99	23 57 27.4	64.88	5	17 26 14.66	26 28 43.8	3.53
6	15 36 28.18	24 3 56.7	63.52	6	17 28 33.67	26 28 22.6	4.95
7	15 38 47.50	24 10 17.8	62.13	7	17 30 52.54	26 27 52.9	6.33
8	15 41 6.92	24 16 30.6	60.75	8	17 33 11.27	26 27 14.9	7.73
9	15 43 26.44	24 22 35.1	59.37	9	17 35 29.86	26 26 28.5	9.12
10	15 45 46.07	24 28 31.3	57.97	10	17 37 48.30	26 25 33.8	10.50
11	15 48 5.79	24 34 19.1	56.58	11	17 40 6.58	26 24 30.8	11.88
12	15 50 25.61	24 39 58.6	55.17	12	17 42 24.70	26 23 19.5	13.25
13	15 52 45.51	24 45 29.6	53.78	13	17 44 42.66	26 22 0.0	14.62
14	15 55 5.50	24 50 52.3	52.35	14	17 47 0.44	26 20 32.3	15.98
15	15 57 25.56	24 56 6.4	50.95	15	17 49 18.05	26 18 56.4	17.33
16	15 59 45.70	25 1 12.1	49.53	16	17 51 35.49	26 17 12.4	18.68
17	16 2 5.91	25 6 9.3	48.10	17	17 53 52.73	26 15 20.3	20.03
18	16 4 26.18	25 10 57.9	46.68	18	17 56 9.80	26 13 20.1	21.37
19	16 6 46.51	25 15 38.0	45.25	19	17 58 26.66	26 11 11.9	22.70
20	16 9 6.89	25 20 9.5	43.83	20	18 0 43.34	26 8 55.7	24.03
21	16 11 27.32	25 24 32.5	42.40	21	18 2 59.81	26 6 31.5	25.35
22	16 13 47.80	25 28 46.9	40.97	22	18 5 16.09	26 3 59.4	26.67
23	16 16 8.31	S. 25 32 52.7	39.52	23	18 7 32.15	S. 26 1 19.4	27.97
SUNDAY 14.				TUESDAY 16.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	16 18 28.85	S. 25 36 49.8	38.08	0	18 9 48.00	S. 25 58 31.6	29.28
1	16 20 49.43	25 40 38.3	36.65	1	18 12 3.64	25 55 35.9	30.57
2	16 23 10.02	25 44 18.2	35.20	2	18 14 19.06	25 52 32.5	31.85
3	16 25 30.64	25 47 49.4	33.77	3	18 16 34.26	25 49 21.4	33.13
4	16 27 51.26	25 51 12.0	32.30	4	18 18 49.23	25 46 2.6	34.42
5	16 30 11.89	25 54 25.8	30.88	5	18 21 3.97	25 42 36.1	35.68
6	16 32 32.53	25 57 31.1	29.42	6	18 23 18.48	25 39 2.0	36.93
7	16 34 53.16	26 0 27.6	27.98	7	18 25 32.75	25 35 20.4	38.18
8	16 37 13.77	26 3 15.5	26.52	8	18 27 46.79	25 31 31.3	39.42
9	16 39 34.38	26 5 54.6	25.08	9	18 30 0.58	25 27 34.8	40.67
10	16 41 54.96	26 8 25.1	23.65	10	18 32 14.12	25 23 30.8	41.88
11	16 44 15.51	26 10 47.0	22.18	11	18 34 27.42	25 19 19.5	43.12
12	16 46 36.03	26 13 0.1	20.75	12	18 36 40.46	25 15 0.8	44.32
13	16 48 56.52	26 15 4.6	19.28	13	18 38 53.25	25 10 34.9	45.52
14	16 51 16.96	26 17 0.3	17.87	14	18 41 5.79	25 6 1.8	46.73
15	16 53 37.35	26 18 47.5	16.40	15	18 43 18.07	25 1 21.4	47.90
16	16 55 57.69	26 20 25.9	14.97	16	18 45 30.09	24 56 34.0	49.08
17	16 58 17.96	26 21 55.7	13.53	17	18 47 41.84	24 51 39.5	50.25
18	17 0 38.18	26 23 16.9	12.10	18	18 49 53.34	24 46 38.0	51.42
	2 32	26 24 29.5	10.65	19	18 52 4.56	24 41 29.5	52.58
		26 25 33.4	9.22	20	18 54 15.52	24 36 14.0	53.72
		26 26 28.7	7.80	21	18 56 26.21	24 30 51.7	54.85
		26 27 15.5	6.37	22	18 58 36.62	24 25 22.6	56.00
		27 53.7	4.93	23	19 0 46.77	24 19 46.6	57.10
		28 3		24	19 2 56.63	S. 24 14 4.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
<i>WEDNESDAY 17.</i>				<i>FRIDAY 19.</i>		
0	^h 19 ^m 2 ^s 56.63	S. 24 14 4.0	58.22	0	^h 20 41 23.43	S. 17 44 58.2
1	19 5 6.22	24 8 14.7	59.33	1	20 43 20.05	17 34 48.9
2	19 7 15.54	24 2 18.7	60.42	2	20 45 16.43	17 24 35.4
3	19 9 24.58	23 56 16.2	61.52	3	20 47 12.59	17 14 17.8
4	19 11 33.33	23 50 7.1	62.58	4	20 49 8.51	17 3 56.0
5	19 13 41.81	23 43 51.6	63.65	5	20 51 4.22	16 53 30.2
6	19 15 50.01	23 37 29.7	64.72	6	20 52 59.70	16 43 0.4
7	19 17 57.92	23 31 1.4	65.78	7	20 54 54.96	16 32 26.6
8	19 20 5.56	23 24 26.7	66.82	8	20 56 50.01	16 21 48.9
9	19 22 12.91	23 17 45.8	67.85	9	20 58 44.84	16 11 7.2
10	19 24 19.97	23 10 58.7	68.87	10	21 0 39.47	16 0 21.8
11	19 26 26.76	23 4 5.5	69.90	11	21 2 33.89	15 49 32.5
12	19 28 33.25	22 57 6.1	70.90	12	21 4 28.10	15 38 39.5
13	19 30 39.46	22 50 0.7	71.92	13	21 6 22.11	15 27 42.8
14	19 32 45.40	22 42 49.2	72.90	14	21 8 15.93	15 16 42.4
15	19 34 51.04	22 35 31.8	73.88	15	21 10 9.55	15 5 38.4
16	19 36 56.41	22 28 8.5	74.85	16	21 12 2.98	14 54 30.8
17	19 39 1.49	22 20 39.4	75.82	17	21 13 56.23	14 43 19.7
18	19 41 6.28	22 13 4.5	76.78	18	21 15 49.28	14 32 5.1
19	19 43 10.80	22 5 23.8	77.72	19	21 17 42.16	14 20 47.0
20	19 45 15.03	21 57 37.5	78.67	20	21 19 34.86	14 9 25.6
21	19 47 18.98	21 49 45.5	79.60	21	21 21 27.39	13 58 0.7
22	19 49 22.65	21 41 47.9	80.52	22	21 23 19.74	13 46 32.6
23	19 51 26.04	S. 21 33 44.8	81.43	23	21 25 11.93	S. 13 35 1.2
<i>THURSDAY 18.</i>				<i>SATURDAY 20.</i>		
0	19 53 29.14	S. 21 25 36.2	82.33	0	21 27 3.95	S. 13 23 26.5
1	19 55 31.97	21 17 22.2	83.23	1	21 28 55.81	13 11 48.7
2	19 57 34.52	21 9 2.8	84.10	2	21 30 47.52	13 0 7.7
3	19 59 36.80	21 0 38.2	85.00	3	21 32 39.07	12 48 23.5
4	20 1 38.80	20 52 8.2	85.87	4	21 34 30.47	12 36 36.3
5	20 3 40.52	20 43 33.0	86.73	5	21 36 21.73	12 24 46.1
6	20 5 41.97	20 34 52.6	87.57	6	21 38 12.83	12 12 52.8
7	20 7 43.16	20 26 7.2	88.43	7	21 40 3.81	12 0 56.6
8	20 9 44.07	20 17 16.6	89.27	8	21 41 54.64	11 48 57.5
9	20 11 44.71	20 8 21.0	90.08	9	21 43 45.34	11 36 55.5
10	20 13 45.09	19 59 20.5	90.92	10	21 45 35.92	11 24 50.6
11	20 15 45.20	19 50 15.0	91.72	11	21 47 26.37	11 12 42.9
12	20 17 45.05	19 41 4.7	92.53	12	21 49 16.69	11 0 32.5
13	20 19 44.64	19 31 49.5	93.32	13	21 51 6.90	10 48 19.3
14	20 21 43.97	19 22 29.6	94.12	14	21 52 57.00	10 36 3.4
15	20 23 43.04	19 13 4.9	94.88	15	21 54 46.99	10 23 44.9
16	20 25 41.85	19 3 35.6	95.67	16	21 56 36.87	10 11 23.7
17	20 27 40.41	18 54 1.6	96.43	17	21 58 26.65	9 59 0.0
18	20 29 38.72	18 44 23.0	97.17	18	22 0 16.33	9 46 33.7
19	20 31 36.78	18 34 40.0	97.93	19	22 2 5.92	9 34 5.0
20	20 33 34.60	18 24 52.4	98.67	20	22 3 55.42	9 21 33.8
21	20 35 32.17	18 15 0.4	99.40	21	22 5 44.83	9 9 0.1
22	20 37 29.50	18 5 4.0	100.13	22	22 7 34.17	8 56 24.2
23	20 39 26.58	17 55 3.2	100.83	23	22 9 23.42	8 43 45.8
24	20 41 23.43	S. 17 44 58.2		24	22 11 12.60	S. 8 31 5.0

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>SUNDAY 21.</i>				<i>TUESDAY 23.</i>		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
2 11 12.60	S. 8 31 5.2	127.13	0	23 38 31.05	N. 2 9 52.0	137.55
2 13 1.71	8 18 22.4	127.52	1	23 40 21.95	2 23 37.3	137.58
2 14 50.76	8 5 37.3	127.88	2	23 42 13.00	2 37 22.8	137.63
2 16 39.75	7 52 50.0	128.22	3	23 44 4.20	2 51 8.6	137.65
2 18 28.69	7 40 0.7	128.60	4	23 45 55.56	3 4 54.5	137.68
2 20 17.57	7 27 9.1	128.92	5	23 47 47.08	3 18 40.6	137.68
2 22 6.40	7 14 15.6	129.27	6	23 49 38.78	3 32 26.7	137.68
2 23 55.19	7 1 20.0	129.60	7	23 51 30.64	3 46 12.8	137.67
2 25 43.94	6 48 22.4	129.93	8	23 53 22.68	3 59 58.8	137.67
2 27 32.65	6 35 22.8	130.25	9	23 55 14.90	4 13 44.8	137.65
2 29 21.33	6 22 21.3	130.57	10	23 57 7.32	4 27 30.7	137.62
2 31 9.98	6 9 17.9	130.87	11	23 58 59.92	4 41 16.4	137.57
2 32 58.61	5 56 12.7	131.18	12	0 0 52.72	4 55 1.8	137.52
2 34 47.22	5 43 5.6	131.47	13	0 2 45.73	5 8 46.9	137.47
2 36 35.82	5 29 56.8	131.77	14	0 4 38.94	5 22 31.7	137.40
2 38 24.41	5 16 46.2	132.03	15	0 6 32.37	5 36 16.1	137.33
2 40 12.99	5 3 34.0	132.33	16	0 8 26.01	5 50 0.1	137.23
2 42 1.57	4 50 20.0	132.58	17	0 10 19.87	6 3 43.5	137.13
2 43 50.15	4 37 4.5	132.85	18	0 12 13.95	6 17 26.3	137.03
2 45 38.74	4 23 47.4	133.12	19	0 14 8.27	6 31 8.5	136.93
2 47 27.34	4 10 28.7	133.35	20	0 16 2.82	6 44 50.1	136.78
2 49 15.96	3 57 8.6	133.60	21	0 17 57.61	6 58 30.8	136.67
2 51 4.59	3 43 47.0	133.83	22	0 19 52.65	7 12 10.8	136.52
2 52 53.26	S. 3 30 24.0	134.07	23	0 21 47.93	N. 7 25 49.9	136.37
<i>MONDAY 22.</i>				<i>WEDNESDAY 24.</i>		
^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
2 54 41.95	S. 3 16 59.6	134.28	0	0 23 43.47	N. 7 39 28.1	136.20
2 56 30.67	3 3 33.9	134.50	1	0 25 39.26	7 53 5.3	136.02
2 58 19.44	2 50 6.9	134.72	2	0 27 35.32	8 6 41.4	135.83
3 0 8.24	2 36 38.6	134.90	3	0 29 31.64	8 20 16.4	135.65
3 1 57.09	2 23 9.2	135.12	4	0 31 28.24	8 33 50.3	135.43
3 3 45.99	2 9 38.5	135.30	5	0 33 25.11	8 47 22.9	135.22
3 5 34.95	1 56 6.7	135.47	6	0 35 22.27	9 0 54.2	134.98
3 7 23.97	1 42 33.9	135.67	7	0 37 19.71	9 14 24.1	134.75
3 9 13.05	1 28 59.9	135.82	8	0 39 17.45	9 27 52.6	134.50
3 11 2.21	1 15 25.0	135.98	9	0 41 15.48	9 41 19.6	134.23
3 12 51.44	1 1 49.1	136.15	10	0 43 13.82	9 54 45.0	133.97
3 14 40.74	0 48 12.2	136.28	11	0 45 12.45	10 8 8.8	133.68
3 16 30.13	0 34 34.5	136.43	12	0 47 11.41	10 21 30.9	133.38
3 18 19.61	0 20 55.9	136.57	13	0 49 10.68	10 34 51.2	133.08
3 20 9.19	S. 0 7 16.5	136.70	14	0 51 10.26	10 48 9.7	132.77
3 21 58.86	N. 0 6 23.7	136.80	15	0 53 10.17	11 1 26.3	132.43
3 23 48.63	0 20 4.5	136.93	16	0 55 10.41	11 14 40.9	132.08
3 25 38.51	0 33 46.1	137.03	17	0 57 10.98	11 27 53.4	131.73
3 27 28.50	0 47 28.3	137.12	18	0 59 11.89	11 41 3.8	131.35
3 29 18.61	1	10	1	1 13.15	11 54 11.9	130.98
3 31 8.84	1		1	3 14.75	12 7 17.8	130.60
3 32 59.19	1		5	16.70	12 20 21.4	130.17
3 34 49.65	1		7	19.00	12 33 22.4	129.77
3 36 40	1		21	67	12 46 21.0	129.33
3 38 31	1		24	70	N. 12 59 17.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.
THURSDAY 25.				SATURDAY 27.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	1 11 24.70	N.12 59 17.0	128.88	0	2 58 4.12	N.22 0 10.1
1	1 13 28.10	13 12 10.3	128.43	1	3 0 28.59	22 9 6.6
2	1 15 31.86	13 25 0.9	127.95	2	3 2 53.53	22 17 55.7
3	1 17 36.01	13 37 48.6	127.47	3	3 5 18.92	22 26 37.2
4	1 19 40.54	13 50 33.4	126.95	4	3 7 44.77	22 35 11.2
5	1 21 45.45	14 3 15.1	126.47	5	3 10 11.08	22 43 37.3
6	1 23 50.74	14 15 53.9	125.92	6	3 12 37.84	22 51 55.7
7	1 25 56.43	14 28 29.4	125.38	7	3 15 5.06	23 0 6.1
8	1 28 2.52	14 41 1.7	124.82	8	3 17 32.72	23 8 8.4
9	1 30 9.01	14 53 30.6	124.25	9	3 20 0.83	23 16 2.6
10	1 32 15.89	15 5 56.1	123.67	10	3 22 29.38	23 23 48.6
11	1 34 23.19	15 18 18.1	123.07	11	3 24 58.37	23 31 26.2
12	1 36 30.89	15 30 36.5	122.45	12	3 27 27.80	23 38 55.3
13	1 38 39.01	15 42 51.2	121.82	13	3 29 57.66	23 46 15.9
14	1 40 47.55	15 55 2.1	121.18	14	3 32 27.95	23 53 27.8
15	1 42 56.52	16 7 9.2	120.52	15	3 34 58.67	24 0 30.9
16	1 45 5.90	16 19 12.3	119.83	16	3 37 29.80	24 7 25.2
17	1 47 15.72	16 31 11.3	119.13	17	3 40 1.35	24 14 10.5
18	1 49 25.96	16 43 6.1	118.45	18	3 42 33.30	24 20 46.8
19	1 51 36.64	16 54 56.8	117.70	19	3 45 5.66	24 27 13.9
20	1 53 47.75	17 6 43.0	116.97	20	3 47 38.42	24 33 31.8
21	1 55 59.30	17 18 24.8	116.22	21	3 50 11.57	24 39 40.4
22	1 58 11.29	17 30 2.1	115.45	22	3 52 45.11	24 45 39.5
23	2 0 23.73	N.17 41 34.8	114.65	23	3 55 19.02	N.24 51 29.2
FRIDAY 26.				SUNDAY 28.		
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]
0	2 2 36.61	N.17 53 2.7	113.85	0	3 57 53.31	N.24 57 9.2
1	2 4 49.94	18 4 25.8	113.02	1	4 0 27.97	25 2 39.6
2	2 7 3.72	18 15 43.9	112.20	2	4 3 2.99	25 8 0.2
3	2 9 17.96	18 26 57.1	111.33	3	4 5 38.36	25 13 10.9
4	2 11 32.65	18 38 5.1	110.45	4	4 8 14.08	25 18 11.7
5	2 13 47.80	18 49 7.8	109.58	5	4 10 50.14	25 23 2.4
6	2 16 3.41	19 0 5.3	108.67	6	4 13 26.52	25 27 43.1
7	2 18 19.48	19 10 57.3	107.73	7	4 16 3.24	25 32 13.6
8	2 20 36.02	19 21 43.7	106.80	8	4 18 40.27	25 36 33.8
9	2 22 53.02	19 32 24.5	105.85	9	4 21 17.61	25 40 43.7
10	2 25 10.48	19 42 59.6	104.88	10	4 23 55.24	25 44 43.2
11	2 27 28.41	19 53 28.9	103.88	11	4 26 33.17	25 48 32.2
12	2 29 46.80	20 3 52.2	102.88	12	4 29 11.38	25 52 10.7
13	2 32 5.67	20 14 9.5	101.85	13	4 31 49.87	25 55 38.6
14	2 34 25.00	20 24 20.6	100.80	14	4 34 28.63	25 58 55.7
15	2 36 44.81	20 34 25.4	99.75	15	4 37 7.64	26 2 2.2
16	2 39 5.08	20 44 23.9	98.67	16	4 39 46.90	26 4 57.9
17	2 41 25.82	20 54 15.9	97.58	17	4 42 26.39	26 7 42.7
18	2 43 47.04	21 4 1.4	96.45	18	4 45 6.11	26 10 16.6
19	2 46 8.72	21 13 40.1	95.33	19	4 47 46.05	26 12 39.5
20	2 48 30.86	21 23 12.1	94.18	20	4 50 26.20	26 14 51.4
21	2 50 53.48	21 32 37.2	93.02	21	4 53 6.54	26 16 52.3
22	2 53 16.56	21 41 55.3	91.83	22	4 55 47.07	26 18 42.1
23	2 55 40.11	21 51 6.3	90.63	23	4 58 27.77	26 20 20.7
24	2 58 4.12	N.22 0 10.1		24	5 1 8.64	N.26 21 48.2

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
MONDAY 29.				TUESDAY 30.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	5 1 8.64	N.26 21 48.2	12.70	0	6 5 50.88	N.25 59 56.6	32.83
1	5 3 49.66	26 23 4.4	10.83	1	6 8 32.35	25 56 39.6	34.72
2	5 6 30.83	26 24 9.4	8.95	2	6 11 13.69	25 53 11.3	36.60
3	5 9 12.13	26 25 3.1	7.05	3	6 13 54.92	25 49 31.7	38.43
4	5 11 53.55	26 25 45.4	5.18	4	6 16 36.00	25 45 41.1	40.32
5	5 14 35.09	26 26 16.5	3.27	5	6 19 16.94	25 41 39.2	42.15
6	5 17 16.72	26 26 36.1	1.38	6	6 21 57.72	25 37 26.3	43.98
7	5 19 58.45	26 26 44.4	0.52	7	6 24 38.33	25 33 2.4	45.83
8	5 22 40.26	26 26 41.3	2.43	8	6 27 18.77	25 28 27.4	47.65
9	5 25 22.13	26 26 26.7	4.32	9	6 29 59.02	25 23 41.5	49.48
10	5 28 4.06	26 26 0.8	6.23	10	6 32 39.08	25 18 44.6	51.27
11	5 30 46.04	26 25 23.4	8.15	11	6 35 18.94	25 13 37.0	53.08
12	5 33 28.05	26 24 34.5	10.05	12	6 37 58.58	25 8 18.5	54.87
13	5 36 10.09	26 23 34.2	11.97	13	6 40 38.00	25 2 49.3	56.65
14	5 38 52.14	26 22 22.4	13.87	14	6 43 17.19	24 57 9.4	58.40
15	5 41 34.19	26 20 59.2	15.78	15	6 45 56.15	24 51 19.0	60.17
16	5 44 16.22	26 19 24.5	17.68	16	6 48 34.85	24 45 18.0	61.92
17	5 46 58.24	26 17 38.4	19.58	17	6 51 13.30	24 39 6.5	63.63
18	5 49 40.23	26 15 40.9	21.50	18	6 53 51.49	24 32 44.7	65.37
19	5 52 22.18	26 13 31.9	23.38	19	6 56 29.41	24 26 12.5	67.07
20	5 55 4.07	26 11 11.6	25.28	20	6 59 7.05	24 19 30.1	68.77
21	5 57 45.90	26 8 39.9	27.18	21	7 1 44.41	24 12 37.5	70.43
22	6 0 27.65	26 5 56.8	29.08	22	7 4 21.48	24 5 34.9	72.12
23	6 3 9.31	26 3 2.3	30.95	23	7 6 58.25	23 58 22.2	73.77
24	6 5 50.88	N.25 59 56.6		24	7 9 34.71	N.23 50 59.6	

PHASES OF THE MOON.

☾ Last Quarter	- - - - -	^d ^h ^m
● New Moon	- - - - -	12 17 29.6
☾ First Quarter	- - - - -	20 18 10.7
○ Full Moon	- - - - -	28 6 37.9

☾ Perigee	- - - - -	^d ^h
☾ Apogee	- - - - -	4 5
	- - - - -	19 7

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
1	Fomalhaut W.	97 8 41	2730	98 44 41	2728	100 20 44	2727	101 56 48
	α Pegasi W.	75 48 20	2524	77 29 0	2516	79 9 51	2508	80 50 53
	α Arietis W.	32 29 37	2404	34 13 6	2394	35 56 50	2384	37 40 48
	Pollux E.	43 12 24	2395	41 28 42	2392	39 44 56	2391	38 1 8
	Regulus E.	79 55 44	2354	78 11 3	2348	76 26 13	2343	74 41 16
	Venus E.	121 27 30	2786	119 52 44	2779	118 17 49	2772	116 42 45
2	α Pegasi W.	89 18 6	2477	90 59 52	2473	92 41 43	2471	94 23 37
	α Arietis W.	46 23 22	2342	48 8 20	2337	49 53 25	2333	51 38 37
	Aldebaran W.	16 40 5	3182	18 7 36	2987	19 38 5	2877	21 10 54
	Pollux E.	29 22 21	2403	27 38 51	2412	25 55 33	2422	24 12 30
	Regulus E.	65 54 51	2317	64 9 17	2314	62 23 38	2311	60 37 55
	Venus E.	108 45 30	2741	107 9 44	2736	105 33 52	2733	103 57 56
	Sun E.	138 4 52	2670	136 27 32	2665	134 50 5	2660	133 12 31
3	α Arietis W.	60 25 55	2313	62 11 35	2312	63 57 17	2309	65 43 3
	Aldebaran W.	29 17 8	2549	30 57 13	2523	32 37 54	2500	34 19 7
	Regulus E.	51 48 30	2299	50 2 29	2299	48 16 28	2298	46 30 25
	Venus E.	95 57 17	2717	94 21 0	2716	92 44 42	2715	91 8 22
	Sun E.	125 3 14	2637	123 25 10	2635	121 47 2	2633	120 8 52
4	α Arietis W.	74 32 17	2304	76 18 10	2304	78 4 4	2304	79 49 58
	Aldebaran W.	42 50 48	2419	44 33 56	2411	46 17 15	2404	48 0 44
	Regulus E.	37 40 7	2298	35 54 5	2300	34 8 5	2302	32 22 8
	Venus E.	83 6 29	2713	81 30 6	2714	79 53 44	2714	78 17 23
	Sun E.	111 57 31	2626	110 19 12	2626	108 40 52	2626	107 2 32
5	α Arietis W.	88 39 15	2308	90 25 3	2309	92 10 49	2311	93 56 32
	Aldebaran W.	56 39 54	2380	58 23 57	2378	60 8 4	2376	61 52 13
	Pollux W.	14 38 57	2600	16 17 52	2543	17 58 6	2500	19 39 19
	Regulus E.	23 33 15	2321	21 47 46	2327	20 2 26	2334	18 17 16
	Venus E.	70 16 3	2724	68 39 55	2726	67 3 49	2728	65 27 46
	Sun E.	98 51 2	2629	97 12 47	2631	95 34 34	2632	93 56 23
6	Aldebaran W.	70 33 12	2375	72 17 23	2375	74 1 33	2377	75 45 41
	Pollux W.	28 13 28	2394	29 57 12	2387	31 41 6	2382	33 25 7
	Venus E.	57 28 31	2747	55 52 53	2752	54 17 22	2756	52 41 56
	Sun E.	85 46 3	2644	84 8 8	2646	82 30 16	2649	80 52 27
7	Aldebaran W.	84 25 48	2388	86 9 40	2391	87 53 28	2394	89 37 11
	Pollux W.	42 6 13	2370	43 50 31	2371	45 34 48	2371	47 19 4
	Venus E.	44 46 26	2789	43 11 44	2796	41 37 11	2804	40 2 48
	Sun E.	72 44 22	2667	71 6 58	2671	69 29 39	2675	67 52 25
8	Pollux W.	55 59 50	2383	57 43 49	2386	59 27 44	2389	61 11 34
	Regulus W.	18 58 25	2391	20 42 13	2389	22 26 4	2389	24 9 54
	Venus E.	32 13 59	2868	30 40 59	2883	29 8 18	2901	27 36 0
	Sun E.	59 47 39	2701	58 11 0	2706	56 34 28	2712	54 58 4
9	Pollux W.	69 49 25	2413	71 32 41	2419	73 15 49	2424	74 58 50
	Regulus W.	32 48 28	2404	34 31 57	2408	36 15 20	2413	37 58 36
	Sun E.	46 57 59	2749	45 22 24	2757	43 46 59	2765	42 11 45
10	Pollux W.	83 31 56	2459	85 14 7	2465	86 56 9	2473	88 38 0

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
		° ' "		° ' "		° ' "		° ' "	
1	Fomalhaut W.	103 32 52	2729	105 8 54	2730	106 44 54	2734	108 20 49	2738
	α Pegasi W.	82 32 4	2496	84 13 23	2490	85 54 51	2485	87 36 25	2480
	α Arietis W.	39 24 58	2367	41 9 20	2361	42 53 51	2354	44 38 32	2348
	Pollux E.	36 17 19	2390	34 33 30	2391	32 49 42	2394	31 5 59	2398
	Regulus E.	72 56 12	2333	71 11 1	2329	69 25 44	2324	67 40 20	2321
	Venus E.	115 7 32	2760	113 32 12	2754	111 56 44	2750	110 21 10	2745
2	α Pegasi W.	96 5 34	2467	97 47 33	2466	99 29 34	2466	101 11 35	2466
	α Arietis W.	53 23 54	2324	55 9 18	2321	56 54 46	2319	58 40 18	2315
	Aldebaran W.	22 45 36	2720	24 21 49	2664	25 59 17	2618	27 37 47	2581
	Pollux E.	22 29 47	2456	20 47 33	2481	19 5 53	2513	17 24 58	2560
	Regulus E.	58 52 8	2307	57 6 18	2304	55 20 24	2302	53 34 28	2301
	Venus E.	102 21 56	2726	100 45 51	2724	99 9 43	2721	97 33 31	2719
	SUN E.	131 34 50	2650	129 57 3	2646	128 19 11	2643	126 41 15	2640
3	α Arietis W.	67 28 51	2307	69 14 40	2305	71 0 32	2305	72 46 24	2304
	Aldebaran W.	36 0 47	2465	37 42 50	2450	39 25 13	2438	41 7 53	2428
	Regulus E.	44 44 21	2297	42 58 17	2297	41 12 13	2297	39 26 9	2298
	Venus E.	89 32 1	2713	87 55 38	2713	86 19 15	2713	84 42 52	2713
	SUN E.	118 30 39	2630	116 52 25	2628	115 14 8	2627	113 35 50	2626
4	α Arietis W.	81 35 51	2304	83 21 44	2304	85 7 36	2306	86 53 26	2307
	Aldebaran W.	49 44 22	2393	51 28 7	2389	53 11 57	2385	54 55 53	2382
	Regulus E.	30 36 13	2306	28 50 22	2309	27 4 35	2311	25 18 52	2315
	Venus E.	76 41 4	2717	75 4 46	2717	73 28 29	2719	71 52 15	2721
	SUN E.	105 24 12	2626	103 45 53	2627	102 7 35	2628	100 29 18	2629
5	α Arietis W.	95 42 13	2314	97 27 52	2316	99 13 28	2318	100 59 2	2320
	Aldebaran W.	63 36 24	2375	65 20 35	2373	67 4 48	2374	68 49 0	2374
	Pollux W.	21 21 15	2446	23 3 45	2427	24 46 41	2413	26 29 57	2403
	Regulus E.	16 32 20	2357	14 47 43	2373	13 3 30	2398	11 19 53	2435
	Venus E.	63 51 47	2733	62 15 51	2737	60 40 0	2740	59 4 13	2744
	SUN E.	92 18 14	2635	90 40 7	2637	89 2 3	2640	87 24 2	2641
6	Aldebaran W.	77 29 48	2379	79 13 53	2382	80 57 54	2383	82 41 53	2386
	Pollux W.	35 9 14	2375	36 53 25	2372	38 37 40	2371	40 21 56	2371
	Venus E.	51 6 36	2765	49 31 22	2771	47 56 16	2776	46 21 17	2782
	SUN E.	79 14 42	2655	77 37 1	2658	75 59 24	2660	74 21 50	2664
7	Aldebaran W.	91 20 50	2401	93 4 24	2405	94 47 52	2408	96 31 15	2412
	Pollux W.	49 3 18	2374	50 47 30	2375	52 31 40	2377	54 15 47	2380
	Venus E.	38 28 37	2822	36 54 36	2832	35 20 49	2842	33 47 16	2855
	SUN E.	66 15 16	2683	64 38 13	2687	63 1 16	2691	61 24 24	2696
8	Pollux W.	62 55 20	2396	64 39 0	2401	66 22 34	2404	68 6 3	2409
	Regulus W.	25 53 44	2391	27 37 31	2394	29 21 14	2397	31 4 53	2400
	Venus E.	26 4 6	2943	24 32 41	2969	23 1 49	2999	21 31 35	3036
	SUN E.	53 21 46	2723	51 45 37	2729	50 9 36	2735	48 33 43	2742
9	Pollux W.	76 41 44	2434	78 24 30	2440	80 7 7	2446	81 49 36	2453
	Regulus W.	39 41 46	2423	41 24 48	2429	43 7 42	2434	44 50 29	2440
	SUN E.	40 36 41	2781	39 1 49	2791	37 27 9	2800	35 52 41	2811
10	Pollux W.	90 19 42	2487	92 1 13	2495	93 42 33	2503	95 23 42	2511

MEAN TIME.									
LUNAR DISTANCES.									
Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .	P.L. of diff.
10	Regulus W.	16 33 7	2446	48 15 36	2452	49 57 57	2459	51 40 8	2466
	SUN E.	34 18 27	2822	32 44 27	2834	31 10 43	2846	29 37 15	2860
15	SUN W.	27 2 24	3275	28 27 5	3282	29 51 38	3289	31 16 2	3298
	Mars E.	29 59 50	3110	28 31 53	3123	27 4 11	3134	25 36 43	3146
	Fomalhaut E.	71 47 55	3264	70 23 1	3283	68 58 30	3303	67 34 22	3325
	α Pegasi E.	92 29 47	3001	90 59 35	3011	89 29 36	3022	87 59 51	3033
16	SUN W.	38 15 52	3336	39 39 22	3345	41 2 41	3354	42 25 50	3362
	Fomalhaut E.	60 40 7	3442	59 18 38	3470	57 57 40	3498	56 37 13	3526
	α Pegasi E.	80 34 35	3091	79 6 14	3102	77 38 7	3114	76 10 15	3125
17	SUN W.	49 19 15	3402	50 41 29	3410	52 3 34	3417	53 25 31	3423
	Jupiter W.	21 13 21	3129	22 40 55	3131	24 8 27	3133	25 35 57	3136
	Saturn W.	13 33 12	3158	15 0 12	3143	16 27 29	3134	17 54 57	3129
	Fomalhaut E.	50 3 35	3699	48 46 47	3740	47 30 42	3784	46 15 23	3831
	α Pegasi E.	68 54 22	3184	67 27 54	3196	66 1 40	3208	64 35 40	3220
18	SUN W.	60 13 31	3453	61 34 48	3457	62 56 0	3462	64 17 7	3465
	Jupiter W.	32 52 31	3152	34 19 38	3155	35 46 41	3157	37 13 42	3160
	Saturn W.	25 13 16	3124	26 40 57	3125	28 8 36	3126	29 36 14	3127
	Fomalhaut E.	40 12 7	4130	39 2 34	4209	37 54 16	4292	36 47 16	4387
	α Pegasi E.	57 29 14	3282	56 4 41	3294	54 40 23	3307	53 16 20	3322
	α Arietis E.	99 9 18	3064	97 40 24	3067	96 11 34	3072	94 42 50	3076
19	SUN W.	71 1 49	3478	72 22 38	3478	73 43 27	3479	75 4 14	3479
	Jupiter W.	44 28 4	3168	45 54 52	3168	47 21 39	3168	48 48 26	3168
	Saturn W.	36 54 7	3131	38 21 39	3131	39 49 11	3130	41 16 44	3129
	Mars W.	15 20 50	3364	16 43 48	3366	18 6 43	3365	19 29 39	3365
	α Pegasi E.	46 20 20	3400	44 58 3	3419	43 36 8	3439	42 14 35	3460
	α Arietis E.	87 20 9	3088	85 51 45	3090	84 23 23	3090	82 55 1	3091
20	SUN W.	81 48 25	3471	83 9 21	3468	84 30 21	3464	85 51 25	3460
	Jupiter W.	56 2 38	3159	57 29 36	3157	58 56 37	3153	60 23 43	3148
	Saturn W.	48 34 52	3119	50 2 38	3117	51 30 27	3112	52 58 22	3109
	Mars W.	26 24 30	3359	27 47 34	3356	29 10 41	3352	30 33 53	3348
	α Pegasi E.	35 33 38	3604	34 15 8	3644	32 57 21	3689	31 40 22	3741
	α Arietis E.	75 33 8	3085	74 4 40	3083	72 36 9	3080	71 7 35	3076
21	SUN W.	92 38 6	3431	93 59 47	3425	95 21 35	3416	96 43 33	3408
	Jupiter W.	67 40 36	3122	69 8 19	3115	70 36 11	3106	72 4 13	3100
	Saturn W.	60 19 19	3081	61 47 52	3074	63 16 33	3066	64 45 24	3059
	Mars W.	37 31 12	3320	38 55 0	3313	40 18 56	3306	41 43 1	3297
	α Arietis E.	63 43 29	3053	62 14 22	3047	60 45 7	3039	59 15 43	3034
	Aldebaran E.	96 5 50	3095	94 37 34	3088	93 9 10	3081	91 40 37	3073
22	SUN W.	103 35 53	3359	104 58 56	3349	106 22 11	3338	107 45 39	3326
	Jupiter W.	79 26 53	3053	80 56 0	3043	82 25 19	3031	83 54 53	3021
	Saturn W.	72 12 13	3013	73 42 10	3002	75 12 20	2992	76 42 43	2980
	Mars W.	48 46 1	3250	50 11 11	3239	51 36 34	3227	53 2 11	3215
	α Arietis E.	51 46 28	2993	50 16 6	2984	48 45 33	2974	47 14 48	2965
	Aldebaran E.	84 15 20	3029	82 45 43	3019	81 15 54	3009	79 45 52	2991
23	SUN W.	114 46 38	3260	116 11 36	3245	117 36 52	3231	119 2 24	3218

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
10	Regulus W.	53 22 9	2473	55 4 0	2481	56 45 40	2488	58 27 10	2496
	SUN E.	28 4 5	2875	26 31 14	2892	24 58 45	2910	23 26 39	2932
15	SUN W.	32 40 19	3303	34 4 27	3312	35 28 25	3320	36 52 13	3328
	Mars E.	24 9 29	3158	22 42 30	3170	21 15 45	3182	19 49 14	3193
	Fomalhaut E.	66 10 39	3346	64 47 21	3369	63 24 29	3393	62 2 4	3417
	α Pegasi E.	86 30 19	3045	85 1 2	3056	83 31 59	3068	82 3 10	3079
16	SUN W.	43 48 50	3371	45 11 40	3379	46 34 21	3387	47 56 52	3394
	Fomalhaut E.	55 17 18	3557	53 57 57	3590	52 39 12	3624	51 21 4	3661
	α Pegasi E.	74 42 36	3137	73 15 11	3149	71 48 1	3161	70 21 5	3172
17	SUN W.	54 47 21	3430	56 9 3	3436	57 30 39	3442	58 52 8	3447
	Jupiter W.	27 3 23	3138	28 30 46	3142	29 58 5	3145	31 25 20	3148
	Saturn W.	19 22 32	3125	20 50 11	3124	22 17 52	3123	23 45 34	3123
	Fomalhaut E.	45 0 53	3881	43 47 14	3937	42 34 32	3995	41 22 47	4061
	α Pegasi E.	63 9 54	3231	61 44 22	3244	60 19 5	3256	58 54 2	3269
18	SUN W.	65 38 10	3469	66 59 9	3472	68 20 5	3474	69 40 58	3476
	Jupiter W.	38 40 39	3163	40 7 33	3164	41 34 25	3166	43 1 15	3167
	Saturn W.	31 3 51	3128	32 31 27	3129	33 59 1	3130	35 26 34	3130
	Fomalhaut E.	35 41 43	4491	34 37 43	4608	33 35 25	4739	32 34 58	4885
	α Pegasi E.	51 52 34	3336	50 29 4	3351	49 5 51	3366	47 42 56	3383
	α Arietis E.	93 14 11	3079	91 45 36	3082	90 17 4	3084	88 48 35	3087
19	SUN W.	76 25 2	3478	77 45 51	3478	79 6 40	3476	80 27 31	3473
	Jupiter W.	50 15 13	3167	51 42 2	3166	53 8 52	3165	54 35 43	3162
	Saturn W.	42 44 18	3129	44 11 53	3127	45 39 30	3125	47 7 9	3122
	Mars W.	20 52 35	3365	22 15 31	3364	23 38 29	3363	25 1 28	3360
	α Pegasi E.	40 53 26	3483	39 32 43	3509	38 12 29	3537	36 52 46	3569
	α Arietis E.	81 26 40	3091	79 58 19	3090	78 29 57	3088	77 1 33	3087
20	SUN W.	87 12 34	3455	88 33 48	3451	89 55 7	3445	91 16 33	3438
	Jupiter W.	61 50 54	3144	63 18 10	3139	64 45 32	3134	66 13 0	3128
	Saturn W.	54 26 21	3104	55 54 26	3100	57 22 36	3093	58 50 54	3087
	Mars W.	31 57 9	3343	33 20 31	3339	34 43 58	3333	36 7 31	3326
	α Pegasi E.	30 24 18	3799	29 9 15	3867	27 55 22	3946	26 42 49	4040
	α Arietis E.	69 38 56	3073	68 10 13	3068	66 41 24	3064	65 12 30	3058
21	SUN W.	98 5 40	3400	99 27 57	3391	100 50 24	3380	102 13 3	3370
	Jupiter W.	73 32 23	3091	75 0 44	3083	76 29 15	3073	77 57 58	3063
	Saturn W.	66 14 24	3050	67 43 35	3042	69 12 56	3032	70 42 29	3023
	Mars W.	43 7 16	3288	44 31 41	3280	45 56 16	3270	47 21 3	3260
	α Arietis E.	57 46 12	3026	56 16 31	3018	54 46 40	3010	53 16 39	3002
	Aldebaran E.	90 11 54	3065	88 43 2	3056	87 13 59	3047	85 44 45	3039
22	SUN W.	109 9 21	3313	110 33 18	3301	111 57 29	3288	113 21 55	3273
	Jupiter W.	85 21 40	3009	86 54 42	2997	88 24 59	2984	89 55 32	2971
	Saturn W.	78 13 21	2969	79 44 13	2956	81 15 21	2944	82 46 44	2931
	Mars W.	54 28 2	3204	55 54 7	3190	57 20 28	3178	58 47 3	3164
	α Arietis E.	45 42 51	2955	44 12 42	2944	42 41 19	2935	41 9 44	2924
	Aldebaran E.			45 9	2977	75 14 27	2966	73 43 31	2954
23	SUN W.				186	123 20 48	3171	124 47 32	3154

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
23	Jupiter W.	91 26 21	2958	92 57 26	2944	94 28 49	2931	96 0 2
	Saturn W.	84 18 23	2918	85 50 19	2905	87 22 32	2891	88 55
	Mars W.	60 13 55	3150	61 41 4	3136	63 8 30	3122	64 36 1
	α Aquilæ W.	58 53 33	3726	60 9 53	3686	61 26 55	3648	62 44 3
	α Arietis E.	39 37 55	2914	38 5 54	2903	36 33 39	2893	35 1 1
	Aldebaran E.	72 12 20	2942	70 40 54	2930	69 9 13	2918	67 37 1
24	SUN W.	126 14 36	3138	127 41 59	3123	129 9 41	3107	130 37 4
	Jupiter W.	103 43 26	2842	105 17 0	2827	106 50 53	2811	108 25
	Saturn W.	96 42 14	2803	98 16 38	2787	99 51 23	2772	101 26 2
	Mars W.	71 59 28	3029	73 29 5	3012	74 59 3	2996	76 29 2
	α Aquilæ W.	69 22 36	3450	70 43 56	3421	72 5 49	3394	73 28 1
	α Arietis E.	27 15 44	2839	25 42 7	2834	24 8 23	2831	22 34 3
	Aldebaran E.	59 53 34	2842	58 20 1	2831	56 46 13	2817	55 12
	Pollux E.	101 52 35	2781	100 17 42	2766	98 42 29	2750	97 6 5
25	Mars W.	84 6 10	2893	85 38 38	2877	87 11 27	2859	88 44 3
	α Aquilæ W.	80 27 36	3246	81 52 51	3225	83 18 31	3204	84 44 3
	Fomalhaut W.	55 19 55	3206	56 45 57	3169	58 12 43	3133	59 40 1
	α Pegasi W.	32 40 30	3216	34 6 20	3153	35 33 26	3095	37 1 4
	Aldebaran E.	47 17 50	2749	45 42 15	2740	44 6 28	2731	42 30 2
	Pollux E.	89 3 45	2653	87 26 2	2637	85 47 57	2621	84 9 3
26	Mars W.	96 36 11	2757	98 11 36	2740	99 47 23	2723	101 23 2
	α Aquilæ W.	92 0 28	3101	93 28 36	3087	94 57 2	3074	96 25 4
	Fomalhaut W.	67 7 30	2950	68 38 46	2924	70 10 34	2899	71 42 5
	α Pegasi W.	44 37 54	2831	46 11 41	2798	47 46 12	2766	49 21 3
	Aldebaran E.	34 28 35	2707	32 52 4	2711	31 15 39	2718	29 39 4
	Pollux E.	75 51 43	2525	74 11 4	2510	72 30 4	2495	70 48 4
27	Mars W.	109 29 43	2629	111 7 59	2614	112 46 35	2600	114 25 3
	Fomalhaut W.	79 31 46	2772	81 6 50	2754	82 42 18	2738	84 18
	α Pegasi W.	57 26 56	2606	59 5 43	2584	60 45 0	2563	62 24 4
	α Arietis W.	13 49 52	2643	15 27 49	2577	17 7 15	2525	18 47 3
	Pollux E.	62 16 46	2409	60 33 24	2396	58 49 43	2384	57 5 4
	Regulus E.	99 7 50	2385	97 23 54	2372	95 39 39	2358	93 55
28	Fomalhaut W.	92 21 58	2660	93 59 31	2651	95 37 17	2643	97 15 1
	α Pegasi W.	70 50 3	2457	72 32 16	2443	74 14 49	2430	75 57 4
	α Arietis W.	27 23 3	2350	29 7 50	2332	30 53 3	2315	32 38 4
	Pollux E.	48 21 45	2320	46 36 14	2311	44 50 31	2303	43 4 3
	Regulus E.	85 7 28	2284	83 21 5	2273	81 34 26	2263	79 47 3
29	α Pegasi W.	84 36 9	2366	86 20 32	2359	88 5 5	2352	89 49 4
	α Arietis W.	41 31 49	2240	43 19 17	2231	45 6 58	2223	46 54 2
	Aldebaran W.	12 55 15	3737	14 11 23	3387	15 33 54	3137	17 1 1
	Pollux E.	34 13 4	2279	32 26 34	2279	30 40 4	2283	28 53 3
	Regulus E.	70 49 35	2211	69 1 24	2204	67 13 3	2198	65 24 3
30	α Pegasi W.	98 35 10	2329	100 20 27	2329	102 5 44	2328	103 51
	α Arietis W.	55 56 51	2187	57 45 38	2184	59 34 30	2181	61 23 2
	Aldebaran W.	25 1 14	2507	26 42 18	2464	28 24 22	2428	30 7 1
	Regulus E.	56 20 9	2173	54 31 0	2170	52 41 47	2168	50

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
23	Jupiter W.	97 32 26	2902	99 4 43	2887	100 37 18	2873	102 10 12	2857
	Saturn W.	90 27 51	2863	92 0 58	2848	93 34 24	2833	95 8 9	2818
	Mars W.	66 4 14	3092	67 32 34	3077	69 1 12	3060	70 30 11	3045
	α Aquilæ W.	64 3 0	3577	65 22 0	3543	66 41 37	3511	68 1 49	3480
	α Arietis E.	33 28 30	2873	31 55 36	2863	30 22 30	2854	28 49 12	2846
	Aldebaran E.	66 5 4	2893	64 32 36	2880	62 59 52	2867	61 26 51	2855
24	SUN W.	132 6 4	3074	133 34 45	3057	135 3 47	3042	136 33 8	3025
	Jupiter W.	109 59 42	2779	111 34 38	2763	113 9 55	2746	114 45 34	2730
	Saturn W.	103 1 54	2740	104 37 41	2724	106 13 49	2708	107 50 19	2692
	Mars W.	78 0 0	2962	79 31 0	2945	81 2 22	2928	82 34 5	2911
	α Aquilæ W.	74 51 8	3340	76 14 33	3316	77 38 26	3291	79 2 48	3269
	α Arietis E.	21 0 45	2832	19 26 58	2840	17 53 22	2854	16 20 4	2879
	Aldebaran E.	53 37 46	2794	52 3 10	2782	50 28 18	2770	48 53 11	2760
	Pollux E.	95 31 0	2718	93 54 44	2702	92 18 6	2685	90 41 6	2669
25	Mars W.	90 18 12	2824	91 52 8	2807	93 26 27	2790	95 1 8	2773
	α Aquilæ W.	86 11 3	3166	87 37 53	3148	89 5 5	3131	90 32 37	3115
	Fomalhaut W.	61 8 24	3067	62 37 14	3035	64 6 43	3006	65 36 49	2978
	α Pegasi W.	38 31 3	2993	40 1 24	2948	41 32 42	2906	43 4 54	2868
	Aldebaran E.	40 54 20	2717	39 18 2	2711	37 41 37	2707	36 5 7	2706
	Pollux E.	82 30 40	2588	80 51 29	2572	79 11 56	2556	77 32 0	2540
26	Mars W.	103 0 4	2690	104 36 57	2674	106 14 12	2659	107 51 47	2643
	α Aquilæ W.	97 54 39	3052	99 23 47	3043	100 53 7	3036	102 22 35	3029
	Fomalhaut W.	73 15 44	2853	74 49 4	2831	76 22 51	2810	77 57 6	2791
	α Pegasi W.	50 57 19	2706	52 33 51	2679	54 10 59	2654	55 48 41	2629
	Aldebaran E.	28 3 23	2747	26 27 45	2772	24 52 40	2804	23 18 18	2849
	Pollux E.	69 7 0	2465	67 24 57	2450	65 42 33	2436	63 59 49	2422
27	Mars W.	116 4 45	2572	117 44 19	2559	119 24 11	2546	121 4 20	2533
	Fomalhaut W.	85 54 17	2708	87 30 47	2695	89 7 34	2682	90 44 38	2670
	α Pegasi W.	64 4 59	2524	65 45 39	2507	67 26 43	2489	69 8 12	2472
	α Arietis W.	20 29 29	2449	22 11 54	2419	23 55 2	2394	25 38 46	2371
	Pollux E.	55 21 29	2359	53 36 56	2348	51 52 7	2338	50 7 3	2328
	Regulus E.	92 10 9	2332	90 24 56	2319	88 39 24	2307	86 53 34	2296
28	Fomalhaut W.	98 53 18	2631	100 31 31	2627	102 9 50	2624	103 48 13	2622
	α Pegasi W.	77 40 51	2405	79 24 19	2395	81 8 1	2384	82 51 59	2375
	α Arietis W.	34 24 40	2286	36 11 0	2273	37 57 39	2261	39 44 36	2250
	Pollux E.	41 18 32	2290	39 32 18	2286	37 45 58	2283	35 59 33	2280
	Regulus E.	78 0 23	2243	76 13 0	2235	74 25 24	2226	72 37 35	2218
29	α Pegasi W.	91 34 41	2342	93 19 40	2337	95 4 46	2334	96 49 56	2331
	α Arietis W.	48 42 57	2203	50 31 13	2202	52 19 38	2196	54 8 11	2192
	Aldebaran W.	18 32 30	2215	20 6 38	2709	21 43 6	2627	23 21 25	2561
	Pollux E.	27 7 22	2296	25 21 16	2308	23 35 28	2324	21 50 3	2346
	Regulus E.	63 35 54	2187	61 47 7	2183	59 58 14	2179	58 9 14	2175
30	α Pegasi W.	105 36 18	2331	107 21 32	2335	109 6 41	2338	110 51 45	2343
	α Arietis W.	63 12 27	2176	65 1 30	2176	66 50 34	2175	68 39 39	2175
	iran W.	31 50 54	2374	33 35 6	2354	35 19 47	2336	37 4 54	2323
		40 3 15	2166	47 13 56	2166	45 24 38	2167	43 35 21	2168

CONFIGURATIONS OF THE SATELLITES OF JUPITER.

At 5^h, MEAN TIME.

Day of the Month.	West.	East.
1	1. O ⁴ 3. 2.	
2	3. 2. O	.1 .4
3	.3 .1. 2 O	.4
4	.3 O	1. .2 .4
5	.3 ● .1 O	4. O ²
6	1. O .2 O	.3 4.
7	O .1 ² 3. 4.	
8	1. O 3. 2. 4.	
9	3. 2. O 4. .1	
10	3. 4. .1 ² O	
11	4. .3 O	1. .2
12	4. .1 O ²	● .3
13	4. .2 O	1. .3
14	.2 ● .4 O	3. ● .1
15	.4 .1. O	3. 2.
16	.4 .2. 3. O	.1
17	3. .4 .2 ¹ O	
18	.3 O	.4 1. 2
19	.1 .3 O	2. .4
20	2. O	1. .3 .4
21	.2 ● .1 O	3. .4
22	1. O O	3. 4.
23	.2. 3. O	.1 4.
24	3. .2 1. O	4.
25	.3 O	.2 .1 4.
26	.1 ³ O	4. 2.

THE SATELLITES OF JUPITER

are not visible

from the 26th day of November, 1841, until the 18th day of January, 1842,
JUPITER being too near to the SUN.

This Table represents, at 5^h after *Mean Noon* of each day, the relative positions of the images of Jupiter and his Satellites, as they would appear (disregarding their latitudes) in an inverting telescope. Jupiter is indicated by the white circles (O) in the centre of the page; the Satellites by points. The numerals 1, 2, 3, and 4, annexed to the points, serve to distinguish the Satellites from each other; and their positions are such as to indicate the directions of the Satellites' motions, which are in all cases to be considered as *towards the numerals*. ^W at its greatest elongation, the point is placed above or below the centre of the circle (O) at the left or right hand of the page, denotes that the Satellite place on the disc of Jupiter, and a black circle (●) that it is either *behind* the disc, Jupiter.

ECLIPSES OF THE SATELLITES OF JUPITER.

SATELLITE.	Day of the Month.	Mean Time.	Sidereal Time.	PHASE as seen in an inverting Telescope.
I.	1	^h 21 ^m 20 ^s 42·5	^h 12 ^m 6 ^s 37·0	Em.
	3	15 49 21·8	6 42 15·0	Em.
	5	10 18 0·1	1 17 52·0	Em.
	7	4 46 37·5	19 53 28·1	Em.
	8	23 15 16·9	14 29 6·1	Em.
	10	17 43 55·0	9 4 42·9	Em.
	12	12 12 32·2	3 40 18·8	Em.
	14	6 41 8·5	22 15 53·8	Em.
	16	1 9 46·5	16 51 30·4	Em.
	17	19 38 23·9	11 27 6·5	Em.
	19	14 6 59·7	6 2 40·9	Em.
	21	8 35 35·0	0 38 15·0	Em.
	23	3 4 11·6	19 13 50·2	Em.
	24	21 32 48·0	13 49 25·3	Em.
	26	16 1 22·6	8 24 58·5	Em.
II.	3	14 1 17·3	4 53 52·8	Em.
	7	3 19 39·1	18 26 15·3	Em.
	10	16 39 6·0	7 59 43·3	Em.
	14	5 57 25·3	21 32 3·3	Em.
	17	19 16 51·1	11 5 30·1	Em.
	21	8 35 8·2	0 37 48·1	Em.
	24	21 54 31·4	14 11 12·2	Em.
III.	5	2 16 26·0	17 14 58·7	Im.
	5	5 4 56·4	20 3 56·9	Em.
	12	9 5 24·1	0 32 39·9	Em.
	19	13 5 10·7	5 0 41·8	Em.
	26	17 4 45·4	9 28 31·8	Em.

THE ECLIPSES OF THE SATELLITES OF JUPITER

are not visible

from the 26th day of November, 1841, until the 18th day of January, 1842,

JUPITER being too near to the SUN.

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

Satellite.	OCCULTATIONS.		TRANSITS OF SATELLITES.		TRANSITS OF SHADOW.	
	Immersion.	Emersion.	Ingress.	Egress.	Ingress.	Egress.
I.	d h m	d h m	d h m	d h m	d h m	d h m
	1 9 3		2 6 20	2 8 36	0 12 33	1 14
	3 3 40		4 0 57	4 3 13	2 7 9	2 9
	5 22 18		6 19 34	6 21 50	4 1 45	4 4
	7 16 55		7 14 12	8 16 28	6 20 20	6 22
	8 11 32		9 8 49	9 11 5	7 14 56	8 17
	10 6 9	In	11 3 26	11 5 43	9 9 32	9 11
	12 0 46		13 22 4	13 0 20	11 4 8	11 6
	14 19 24	the	15 16 41	15 18 57	13 22 43	13 1
	15 14 1		16 11 19	16 13 35	15 17 19	15 19
	17 8 38	Shadow.	18 5 56	18 8 12	16 11 55	16 14
	19 3 15		20 0 33	20 2 50	18 6 31	18 8
	21 21 53		22 19 11	22 21 27	20 1 6	20 3
	23 16 30		23 13 48	23 16 5	22 19 42	22 21
	24 11 7		25 8 26	25 10 42	23 14 18	24 16
	26 5 44				25 8 53	25 11
II.	3 0 33		1 5 54	1 8 37	1 7 36	1 10
	6 14 12	In	5 19 32	5 22 14	5 21 7	5 23
	10 3 52		8 9 9	8 11 52	8 10 38	8 13
	14 17 31	the	12 22 47	12 1 30	12 0 9	12 2
	17 7 10		15 12 25	15 15 8	15 13 41	16 16
	21 20 50	Shadow.	19 2 3	19 4 46	19 3 12	19 5
	24 10 30		22 15 41	23 18 25	23 16 43	23 19
			26 5 19	26 8 3	26 6 14	26 8
III.	4 13 59	5 16 59	1 23 41	1 2 40	1 3 3	1 6
	12 18 53		8 4 34	8 7 33	8 7 31	8 10
	19 23 47	In the	15 9 28	15 12 29	15 11 59	15 15
	26 4 43	Shadow.	22 14 23	23 17 26	23 16 27	23 19

THE SATELLITES OF JUPITER

are not visible

from the 26th day of November, 1841, until the 18th day of January, 1842,

JUPITER being too near to the SUN.

Day of the Month.	For correcting the Places of the Fixed Stars.				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h 809526. Days.	From Mean Noon of January 1.	
	At Mean Midnight,						Day of the Year.	Fraction of the Year.
	Logarithm of							
	A	B	C	D				
1	+1 ^h 1592	+1 ^h 1116	+0 ^h 0374	−0 ^h 7263	9 16 4 ^s 52	223	304	832
2	1 ^h 1528	1 ^h 1207	0 ^h 0385	0 ^h 7242	9 12 8 ^s 61	224	305	835
3	1 ^h 1462	1 ^h 1294	0 ^h 0396	0 ^h 7221	9 8 12 ^s 70	225	306	838
4	+1 ^h 1394	+1 ^h 1379	+0 ^h 0407	−0 ^h 7200	9 4 16 ^s 79	226	307	841
5	1 ^h 1323	1 ^h 1461	0 ^h 0418	0 ^h 7178	9 0 20 ^s 88	227	308	843
6	1 ^h 1250	1 ^h 1540	0 ^h 0430	0 ^h 7156	8 56 24 ^s 97	228	309	846
7	+1 ^h 1174	+1 ^h 1616	+0 ^h 0441	−0 ^h 7134	8 52 29 ^s 06	229	310	849
8	1 ^h 1095	1 ^h 1690	0 ^h 0453	0 ^h 7112	8 48 33 ^s 15	230	311	851
9	1 ^h 1013	1 ^h 1761	0 ^h 0464	0 ^h 7090	8 44 37 ^s 24	231	312	854
10	+1 ^h 0929	+1 ^h 1830	+0 ^h 0476	−0 ^h 7068	8 40 41 ^s 33	232	313	857
11	1 ^h 0841	1 ^h 1897	0 ^h 0488	0 ^h 7046	8 36 45 ^s 42	233	314	860
12	1 ^h 0750	1 ^h 1961	0 ^h 0500	0 ^h 7024	8 32 49 ^s 51	234	315	862
13	+1 ^h 0656	+1 ^h 2023	+0 ^h 0512	−0 ^h 7002	8 28 53 ^s 60	235	316	865
14	1 ^h 0558	1 ^h 2082	0 ^h 0524	0 ^h 6980	8 24 57 ^s 69	236	317	868
15	1 ^h 0456	1 ^h 2140	0 ^h 0536	0 ^h 6957	8 21 1 ^s 78	237	318	871
16	+1 ^h 0351	+1 ^h 2196	+0 ^h 0548	−0 ^h 6935	8 17 5 ^s 87	238	319	873
17	1 ^h 0241	1 ^h 2249	0 ^h 0561	0 ^h 6913	8 13 9 ^s 96	239	320	876
18	1 ^h 0128	1 ^h 2301	0 ^h 0573	0 ^h 6891	8 9 14 ^s 05	240	321	879
19	+1 ^h 0010	+1 ^h 2350	+0 ^h 0585	−0 ^h 6869	8 5 18 ^s 14	241	322	882
20	0 ^h 9887	1 ^h 2398	0 ^h 0598	0 ^h 6848	8 1 22 ^s 23	242	323	884
21	0 ^h 9759	1 ^h 2444	0 ^h 0610	0 ^h 6826	7 57 26 ^s 31	243	324	887
22	+0 ^h 9626	+1 ^h 2488	+0 ^h 0623	−0 ^h 6805	7 53 30 ^s 40	244	325	890
23	0 ^h 9487	1 ^h 2531	0 ^h 0636	0 ^h 6783	7 49 34 ^s 49	245	326	893
24	0 ^h 9342	1 ^h 2571	0 ^h 0649	0 ^h 6762	7 45 38 ^s 58	246	327	895
25	+0 ^h 9191	+1 ^h 2610	+0 ^h 0661	−0 ^h 6742	7 41 42 ^s 67	247	328	898
26	0 ^h 9033	1 ^h 2647	0 ^h 0674	0 ^h 6721	7 37 46 ^s 76	248	329	901
27	0 ^h 8867	1 ^h 2683	0 ^h 0687	0 ^h 6701	7 33 50 ^s 85	249	330	903
28	+0 ^h 8693	+1 ^h 2717	+0 ^h 0700	−0 ^h 6681	7 29 54 ^s 93	250	331	906
29	0 ^h 8510	1 ^h 2749	0 ^h 0713	0 ^h 6662	7 25 59 ^s 02	251	332	909
30	0 ^h 8318	1 ^h 2780	0 ^h 0726	0 ^h 6643	7 22 3 ^s 11	252	333	912
31	+0 ^h 8116	+1 ^h 2809	+0 ^h 0739	−0 ^h 6624	7 18 7 ^s 20	253	334	914

AT APPARENT NOON.

Day of the Week.	Day of the Month.	THE SUN'S				Sidereal Time of the Semidiam. passing the Meridian.*	Equation of Time, to be subd. from added to Apparent Time.
		Apparent Right Ascension.	Diff. for 1 hour.	Apparent Declination.	Diff. for 1 hour.		
		^h ^m ^s	^s	^o ['] ["]	["]	^m ^s	^m ^s
Wed.	1	16 29 56.96	10.317	S. 21 50 50.7	22.68	1 10.23	10 42.12
Thur.	2	16 34 16.57	10.344	21 59 55.1	21.62	1 10.31	10 19.12
Frid.	3	16 38 36.83	10.370	22 8 34.0	20.55	1 10.39	9 55.49
Sat.	4	16 42 57.71	10.394	22 16 47.2	19.47	1 10.47	9 31.23
Sun.	5	16 47 19.16	10.917	22 24 34.5	18.38	1 10.54	9 6.41
Mon.	6	16 51 41.18	10.940	22 31 55.6	17.27	1 10.61	8 41.02
Tues.	7	16 56 3.74	10.962	22 38 50.2	16.17	1 10.68	8 15.08
Wed.	8	17 0 26.82	10.982	22 45 18.2	15.05	1 10.74	7 48.63
Thur.	9	17 4 50.39	11.001	22 51 19.3	13.92	1 10.80	7 21.70
Frid.	10	17 9 14.41	11.018	22 56 53.3	12.78	1 10.86	6 54.32
Sat.	11	17 13 38.84	11.034	23 2 0.0	11.63	1 10.91	6 26.52
Sun.	12	17 18 3.66	11.048	23 6 39.2	10.49	1 10.96	5 58.33
Mon.	13	17 22 28.82	11.062	23 10 50.9	9.33	1 11.00	5 29.80
Tues.	14	17 26 54.30	11.073	23 14 34.8	8.17	1 11.04	5 0.96
Wed.	15	17 31 20.05	11.083	23 17 50.8	7.00	1 11.08	4 31.85
Thur.	16	17 35 46.04	11.092	23 20 38.8	5.83	1 11.11	4 2.50
Frid.	17	17 40 12.24	11.098	23 22 58.7	4.65	1 11.14	3 32.94
Sat.	18	17 44 38.60	11.103	23 24 50.4	3.48	1 11.16	3 3.22
Sun.	19	17 49 5.08	11.107	23 26 14.0	2.30	1 11.18	2 33.38
Mon.	20	17 53 31.66	11.110	23 27 9.3	1.12	1 11.19	2 3.44
Tues.	21	17 57 58.30	11.110	23 27 36.3	0.05	1 11.20	1 33.45
Wed.	22	18 2 24.95	11.110	23 27 35.0	1.23	1 11.20	1 3.43
Thur.	23	18 6 51.59	11.108	23 27 5.4	2.41	1 11.20	0 33.43
Frid.	24	18 11 18.19	11.105	23 26 7.6	3.59	1 11.19	0 3.47
Sat.	25	18 15 44.71	11.101	23 24 41.4	4.76	1 11.18	0 26.41
Sun.	26	18 20 11.13	11.095	23 22 47.1	5.94	1 11.17	0 56.19
Mon.	27	18 24 37.42	11.088	23 20 24.6	7.11	1 11.15	1 25.84
Tues.	28	18 29 3.54	11.080	23 17 34.0	8.28	1 11.13	1 55.32
Wed.	29	18 33 29.47	11.071	23 14 15.3	9.44	1 11.10	2 24.61
Thur.	30	18 37 55.17	11.060	23 10 28.7	10.60	1 11.07	2 53.67
Frid.	31	18 42 20.62	11.049	23 6 14.3	11.75	1 11.03	3 22.49
Sat.	32	18 46 45.79		S. 23 1 32.2		1 10.99	3 51.02

* Mean Time of the Semidiameter passing may be found by subtracting 0^m 19 from the Sidereal

AT MEAN NOON.

	Day of the Month.	THE SUN'S			Equation of Time, to be added to subt. from Mean Time.	Sidereal Time.
		Apparent Right Ascension.	Apparent Declination.	Semidiam.*		
		^h ^m ^s	[°] ['] ["]	['] ["]	^m ^s	^h ^m ^s
ed.	1	16 29 58.88	S. 21 50 54.9	16 15.1	10 41.95	16 40 40.83
ur.	2	16 34 18.43	21 59 58.9	16 15.2	10 18.96	16 44 37.39
id.	3	16 38 38.62	22 8 37.5	16 15.3	9 55.32	16 48 33.95
t.	4	16 42 59.43	22 16 50.4	16 15.5	9 31.07	16 52 30.50
n.	5	16 47 20.81	22 24 37.4	16 15.6	9 6.25	16 56 27.06
on.	6	16 51 42.76	22 31 58.1	16 15.7	8 40.86	17 0 23.62
ies.	7	16 56 5.25	22 38 52.5	16 15.8	8 14.93	17 4 20.18
ed.	8	17 0 28.25	22 45 20.2	16 15.9	7 48.49	17 8 16.74
ur.	9	17 4 51.74	22 51 21.1	16 16.0	7 21.56	17 12 13.30
id.	10	17 9 15.67	22 56 54.9	16 16.2	6 54.18	17 16 9.85
t.	11	17 13 40.02	23 2 1.3	16 16.3	6 26.39	17 20 6.41
n.	12	17 18 4.76	23 6 40.3	16 16.4	5 58.21	17 24 2.97
on.	13	17 22 29.84	23 10 51.8	16 16.4	5 29.69	17 27 59.53
ies.	14	17 26 55.23	23 14 35.5	16 16.5	5 0.86	17 31 56.09
ed.	15	17 31 20.89	23 17 51.3	16 16.6	4 31.76	17 35 52.65
ur.	16	17 35 46.79	23 20 39.2	16 16.7	4 2.41	17 39 49.20
id.	17	17 40 12.89	23 22 59.0	16 16.8	3 32.87	17 43 45.76
t.	18	17 44 39.16	23 24 50.6	16 16.8	3 3.16	17 47 42.32
n.	19	17 49 5.56	23 26 14.1	16 16.9	2 33.32	17 51 38.88
on.	20	17 53 32.04	23 27 9.3	16 17.0	2 3.40	17 55 35.44
ies.	21	17 57 58.59	23 27 36.3	16 17.1	1 33.41	17 59 32.00
ed.	22	18 2 25.15	23 27 35.0	16 17.1	1 3.41	18 3 28.56
ur.	23	18 6 51.70	23 27 5.4	16 17.2	0 33.42	18 7 25.12
id.	24	18 11 18.21	23 26 7.6	16 17.2	0 3.47	18 11 21.67
t.	25	18 15 44.63	23 24 41.5	16 17.3	0 26.40	18 15 18.23
n.	26	18 20 10.96	23 22 47.2	16 17.3	0 56.17	18 19 14.79
on.	27	18 24 37.16	23 20 24.8	16 17.3	1 25.81	18 23 11.35
ies.	28	18 29 3.18	23 17 34.3	16 17.3	1 55.28	18 27 7.91
ed.	29	18 33 29.02	23 14 15.7	16 17.3	2 24.56	18 31 4.47
ur.	30	18 37 54.64	23 10 29.3	16 17.3	2 53.62	18 35 1.03
id.	31	18 42 20.00	23 6 15.0	16 17.3	3 22.42	18 38 57.58
t.	32	18 46 45.08	S. 23 1 32.9	16 17.3	3 50.94	18 42 54.14

* The Semidiameters.

* noon may be assumed the same as that for Mean Noon.

MEAN TIME.

Day of the Month.	THE SUN'S <i>Apparent</i>		Logarithm of the Radius Vector of the Earth.	THE MOON'S			
	Longitude.	Latitude.		Semidiameter.		Horizontal Paral	
	Noon.	Noon.		Noon.	Midnight.	Noon.	Mid
1	249° 11' 25" 1	N. 0° 24'	9.9936542	16' 22" 3	16' 21" 9	60' 4" 9	60'
2	250 12 17 5	N. 0 11	9.9935916	16 20 9	16 19 0	59 59 5	59 5
3	251 13 11 3	S. 0 02	9.9935314	16 16 6	16 13 6	59 43 8	59 3
4	252 14 6 4	0 14	9.9934734	16 10 2	16 6 4	59 20 3	59
5	253 15 2 7	0 25	9.9934175	16 2 4	15 58 3	58 51 9	58 3
6	254 16 0 2	0 34	9.9933637	15 54 1	15 49 8	58 21 1	58
7	255 16 59 0	0 41	9.9933118	15 45 5	15 41 3	57 49 8	57 3
8	256 17 59 0	0 45	9.9932618	15 37 1	15 32 8	57 18 8	57
9	257 19 0 1	0 46	9.9932136	15 28 7	15 24 6	56 48 1	56 3
10	258 20 2 3	0 43	9.9931671	15 20 7	15 16 7	56 18 6	56
11	259 21 5 4	0 38	9.9931222	15 12 8	15 9 1	55 49 8	55
12	260 22 9 4	0 31	9.9930789	15 5 4	15 2 0	55 22 7	55
13	261 23 14 2	0 21	9.9930371	14 58 6	14 55 5	54 57 5	54
14	262 24 19 6	S. 0 08	9.9929968	14 52 6	14 50 0	54 35 5	54
15	263 25 25 6	N. 0 05	9.9929580	14 47 9	14 46 0	54 18 2	54
16	264 26 32 1	0 19	9.9929208	14 44 6	14 43 7	54 6 3	54
17	265 27 39 0	0 32	9.9928853	14 43 3	14 43 5	54 1 4	54
18	266 28 46 3	0 45	9.9928516	14 44 3	14 45 8	54 5 2	54
19	267 29 53 8	0 56	9.9928199	14 47 9	14 50 8	54 18 5	54
20	268 31 1 5	0 66	9.9927904	14 54 4	14 58 6	54 42 2	54
21	269 32 9 3	0 73	9.9927631	15 3 6	15 9 1	55 15 8	55
22	270 33 17 2	0 77	9.9927380	15 15 3	15 22 0	55 59 0	56
23	271 34 25 2	0 77	9.9927154	15 29 2	15 36 7	56 49 8	57
24	272 35 33 3	0 75	9.9926954	15 44 3	15 52 0	57 45 4	58
25	273 36 41 4	0 70	9.9926781	15 59 6	16 6 9	58 41 6	59
26	274 37 49 6	0 62	9.9926635	16 13 7	16 19 8	59 33 2	59
27	275 38 58 0	0 52	9.9926516	16 25 2	16 29 6	60 15 4	60
28	276 40 6 5	0 40	9.9926426	16 32 9	16 35 1	60 43 7	60
29	277 41 15 2	0 28	9.9926366	16 36 0	16 35 7	60 55 1	60
30	278 42 24 1	0 15	9.9926334	16 34 3	16 31 8	60 48 8	60
31	279 43 33 1	N. 0 03	9.9926330	16 28 3	16 24 0	60 26 9	60
32	280 44 42 3	S. 0 08	9.9926354	16 19 0	16 13 4	59 52 6	59

MEAN TIME.

THE MOON'S

Day of the Week.	Day of the Month.	Longitude.		Latitude.		Age.		Meridian	
		Noon.	Midnight.	Noon.	Midnight.	Noon.	Passage.		
Wed.	1	105 52 21.1	113 8 34.3	N.1 20 34.6	N.0 42 13.7	18.3	15 5.1		
Thur.	2	120 23 36.7	127 36 56.9	N.0 3 15.2	S.0 35 39.4	19.3	16 1.8		
Frid.	3	134 48 9.9	141 56 55.5	S.1 13 50.5	1 50 39.5	20.3	16 54.4		
Sat.	4	149 2 59.3	156 6 11.4	2 25 32.5	2 57 57.7	21.3	17 43.8		
Sun.	5	163 6 26.3	170 3 39.8	3 27 28.4	3 53 41.5	22.3	18 31.3		
Mon.	6	176 57 51.1	183 48 59.5	4 16 17.6	4 35 2.4	23.3	19 18.1		
Tues.	7	190 37 5.9	197 22 9.9	4 49 44.8	5 0 18.1	24.3	20 5.5		
Wed.	8	204 4 11.5	210 43 10.1	5 6 39.0	5 8 48.1	25.3	20 54.4		
Thur.	9	217 19 4.5	223 51 52.5	5 6 49.1	5 0 49.0	26.3	21 45.2		
Frid.	10	230 21 31.9	236 47 59.9	4 50 57.7	4 37 28.6	27.3	22 37.9		
Sat.	11	243 11 14.8	249 31 14.6	4 20 35.9	4 0 37.5	28.3	23 31.5		
Sun.	12	255 47 59.2	262 1 31.3	3 37 52.0	3 12 40.0	29.3	24		
Mon.	13	268 11 53.7	274 19 13.6	2 45 22.2	2 16 20.5	0.6	0 24.9		
Tues.	14	280 23 40.4	286 25 26.6	1 45 56.2	1 14 31.5	1.6	1 16.5		
Wed.	15	292 24 48.1	298 22 3.9	S.0 42 26.8	S.0 10 3.5	2.6	2 5.5		
Thur.	16	304 17 36.5	310 11 51.0	N.0 22 20.0	N.0 54 23.3	3.6	2 51.5		
Frid.	17	316 5 15.3	321 58 20.7	1 25 48.9	1 56 19.4	4.6	3 34.8		
Sat.	18	327 51 40.2	333 45 48.1	2 25 38.0	2 53 28.0	5.6	4 16.1		
Sun.	19	339 41 21.4	345 38 58.0	3 19 33.5	3 43 39.0	6.6	4 56.3		
Mon.	20	351 39 15.8	357 42 53.7	4 5 28.2	4 24 45.6	7.6	5 36.5		
Tues.	21	3 50 29.4	10 2 39.3	4 41 14.5	4 54 39.7	8.6	6 17.8		
Wed.	22	16 19 57.9	22 42 55.8	5 4 44.8	5 11 14.7	9.6	7 1.5		
Thur.	23	29 11 59.8	35 47 31.1	5 13 53.4	5 12 28.7	10.6	7 48.8		
Frid.	24	42 29 44.1	49 18 44.9	5 6 48.4	4 56 44.3	11.6	8 40.9		
Sat.	25	56 14 31.4	63 16 51.1	4 42 11.1	4 23 10.2	12.6	9 38.3		
Sun.	26	70 25 22.1	77 39 31.3	3 59 47.2	3 32 15.9	13.6	10 40.3		
Mon.	27	84 58 37.4	92 21 48.8	3 0 55.8	2 26 15.3	14.6	11 44.7		
Tues.	28	99 48 9.1	107 16 36.1	1 48 50.2	N.1 9 20.1	15.6	12 48.5		
Wed.	29	114 46 6.2	122 15 34.5	N.0 28 30.5	S.0 12 50.2	16.6	13 49.2		
Thur.	30	129 44 0.2	137 10 26.4	S.0 53 53.0	1 33 51.3	17.6	14 45.6		
Frid.	31	144 34 2.8	151 54 5.9	2 12 0.5	2 47 40.3	18.6	15 38.1		
Sat.	32	159 10 1.4	166 21 21.9	S.3 20 17.0	S.3 49 22.4	19.6	16 27.7		

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.
WEDNESDAY 1.				FRIDAY 3.		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	7 9 34.71	N.23 50 59.6	75.40	0	9 7 35.83	N.15 13 53.2
1	7 12 10.86	23 43 27.2	77.03	1	9 9 53.99	15 0 25.9
2	7 14 46.70	23 35 45.0	78.65	2	9 12 11.78	14 46 53.7
3	7 17 22.21	23 27 53.1	80.23	3	9 14 29.21	14 33 16.9
4	7 19 57.40	23 19 51.7	81.82	4	9 16 46.28	14 19 35.6
5	7 22 32.25	23 11 40.8	83.40	5	9 19 3.01	14 5 49.7
6	7 25 6.77	23 3 20.4	84.93	6	9 21 19.38	13 51 59.5
7	7 27 40.94	22 54 50.8	86.48	7	9 23 35.40	13 38 5.1
8	7 30 14.76	22 46 11.9	87.98	8	9 25 51.09	13 24 6.5
9	7 32 48.24	22 37 24.0	89.52	9	9 28 6.43	13 10 3.8
10	7 35 21.36	22 28 26.9	90.98	10	9 30 21.44	12 55 57.2
11	7 37 54.12	22 19 21.0	92.47	11	9 32 36.11	12 41 46.8
12	7 40 26.51	22 10 6.2	93.92	12	9 34 50.45	12 27 32.6
13	7 42 58.54	22 0 42.7	95.37	13	9 37 4.47	12 13 14.7
14	7 45 30.19	21 51 10.5	96.78	14	9 39 18.17	11 58 53.3
15	7 48 1.47	21 41 29.8	98.18	15	9 41 31.55	11 44 28.5
16	7 50 32.37	21 31 40.7	99.58	16	9 43 44.62	11 30 0.3
17	7 53 2.90	21 21 43.2	100.95	17	9 45 57.38	11 15 28.9
18	7 55 33.04	21 11 37.5	102.30	18	9 48 9.84	11 0 54.3
19	7 58 2.80	21 1 23.7	103.63	19	9 50 22.00	10 46 16.6
20	8 0 32.18	20 51 1.9	104.97	20	9 52 33.86	10 31 36.0
21	8 3 1.16	20 40 32.1	106.25	21	9 54 45.43	10 16 52.6
22	8 5 29.76	20 29 54.6	107.55	22	9 56 56.72	10 2 6.3
23	8 7 57.97	N.20 19 9.3	108.80	23	9 59 7.72	N. 9 47 17.5
THURSDAY 2.				SATURDAY 4.		
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>
0	8 10 25.78	N.20 8 16.5	110.05	0	10 1 18.45	N. 9 32 26.0
1	8 12 53.20	19 57 16.2	111.28	1	10 3 28.90	9 17 32.1
2	8 15 20.22	19 46 8.5	112.48	2	10 5 39.09	9 2 35.8
3	8 17 46.85	19 34 53.6	113.68	3	10 7 49.01	8 47 37.2
4	8 20 13.09	19 23 31.5	114.85	4	10 9 58.68	8 32 36.4
5	8 22 38.93	19 12 2.4	116.02	5	10 12 8.09	8 17 33.5
6	8 25 4.37	19 0 26.3	117.17	6	10 14 17.25	8 2 28.5
7	8 27 29.43	18 48 43.3	118.27	7	10 16 26.17	7 47 21.7
8	8 29 54.08	18 36 53.7	119.38	8	10 18 34.85	7 32 13.0
9	8 32 18.35	18 24 57.4	120.47	9	10 20 43.29	7 17 2.5
10	8 34 42.22	18 12 54.6	121.52	10	10 22 51.51	7 1 50.4
11	8 37 5.69	18 0 45.5	122.58	11	10 24 59.50	6 46 36.7
12	8 39 28.78	17 48 30.0	123.62	12	10 27 7.28	6 31 21.5
13	8 41 51.47	17 36 8.3	124.62	13	10 29 14.84	6 16 4.9
14	8 44 13.78	17 23 40.6	125.62	14	10 31 22.19	6 0 47.0
15	8 46 35.70	17 11 6.9	126.58	15	10 33 29.34	5 45 27.8
16	8 48 57.23	16 58 27.4	127.55	16	10 35 36.29	5 30 7.5
17	8 51 18.38	16 45 42.1	128.50	17	10 37 43.04	5 14 46.2
18	8 53 39.14	16 32 51.1	129.40	18	10 39 49.60	4 59 23.8
19	8 55 59.53	16 19 54.7	130.32	19	10 41 55.98	4 44 0.6
20	8 58 19.54	16 6 52.8	131.20	20	10 44 2.18	4 28 36
21	9 0 39.17	15 53 45.6	132.07	21	10 46 8.21	4 13 11
22	9 2 58.42	15 40 33.2	132.92	22	10 48 14.07	3 57 46
23	9 5 17.31	15 27 15.7	133.75	23	10 50 19.76	3 42 26
24	9 7 35.83	N.15 13 53.2		24	10 52 25.30	N. 3 26 5

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .
SUNDAY 5.				TUESDAY 7.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	10 52 25.30	N. 3 26 54.0	154.47	0	12 31 22.43	S. 8 38 44.8	143.05
1	10 54 30.68	3 11 27.2	154.53	1	12 33 26.22	8 53 3.1	142.53
2	10 56 35.91	2 56 0.0	154.55	2	12 35 30.09	9 7 18.3	141.98
3	10 58 41.00	2 40 32.7	154.60	3	12 37 34.05	9 21 30.2	141.45
4	11 0 45.95	2 25 5.1	154.60	4	12 39 38.08	9 35 38.9	140.90
5	11 2 50.77	2 9 37.5	154.60	5	12 41 42.21	9 49 44.3	140.32
6	11 4 55.46	1 54 9.9	154.58	6	12 43 46.43	10 3 46.2	139.75
7	11 7 0.02	1 38 42.4	154.57	7	12 45 50.75	10 17 44.7	139.17
8	11 9 4.47	1 23 15.0	154.53	8	12 47 55.17	10 31 39.7	138.55
9	11 11 8.80	1 7 47.8	154.47	9	12 49 59.69	10 45 31.0	137.95
10	11 13 13.03	0 52 21.0	154.40	10	12 52 4.32	10 59 18.7	137.32
11	11 15 17.15	0 36 54.6	154.33	11	12 54 9.06	11 13 2.6	136.70
12	11 17 21.17	0 21 28.6	154.23	12	12 56 13.92	11 26 42.8	136.05
13	11 19 25.11	N. 0 6 3.2	154.15	13	12 58 18.89	11 40 19.1	135.38
14	11 21 28.95	S. 0 9 21.7	154.02	14	13 0 23.99	11 53 51.4	134.73
15	11 23 32.72	0 24 45.8	153.90	15	13 2 29.21	12 7 19.8	134.05
16	11 25 36.41	0 40 9.2	153.75	16	13 4 34.55	12 20 44.1	133.37
17	11 27 40.02	0 55 31.7	153.60	17	13 6 40.03	12 34 4.3	132.67
18	11 29 43.57	1 10 53.3	153.45	18	13 8 45.64	12 47 20.3	131.95
19	11 31 47.06	1 26 14.0	153.27	19	13 10 51.39	13 0 32.0	131.25
20	11 33 50.49	1 41 33.6	153.07	20	13 12 57.29	13 13 39.5	130.50
21	11 35 53.86	1 56 52.0	152.88	21	13 15 3.32	13 26 42.5	129.77
22	11 37 57.19	2 12 9.3	152.67	22	13 17 9.50	13 39 41.1	129.02
23	11 40 0.48	S. 2 27 25.3	152.43	23	13 19 15.83	S. 13 52 35.2	128.25
MONDAY 6.				WEDNESDAY 8.			
	<i>h m s</i>	<i>° ' "</i>	<i>"</i>		<i>h m s</i>	<i>° ' "</i>	<i>"</i>
0	11 42 3.73	S. 2 42 39.9	152.20	0	13 21 22.31	S. 14 5 24.7	127.48
1	11 44 6.94	2 57 53.1	151.97	1	13 23 28.94	14 18 9.6	126.68
2	11 46 10.13	3 13 4.9	151.68	2	13 25 35.73	14 30 49.7	125.92
3	11 48 13.29	3 28 15.0	151.43	3	13 27 42.68	14 43 25.2	125.08
4	11 50 16.43	3 43 23.6	151.13	4	13 29 49.79	14 55 55.7	124.28
5	11 52 19.56	3 58 30.4	150.85	5	13 31 57.07	15 8 21.4	123.47
6	11 54 22.68	4 13 35.5	150.53	6	13 34 4.51	15 20 42.2	122.62
7	11 56 25.80	4 28 38.7	150.22	7	13 36 12.12	15 32 57.9	121.77
8	11 58 28.91	4 43 40.0	149.90	8	13 38 19.89	15 45 8.5	120.92
9	12 0 32.03	4 58 39.4	149.55	9	13 40 27.84	15 57 14.0	120.05
10	12 2 35.16	5 13 36.7	149.18	10	13 42 35.97	16 9 14.3	119.17
11	12 4 38.30	5 28 31.8	148.83	11	13 44 44.27	16 21 9.3	118.28
12	12 6 41.46	5 43 24.8	148.45	12	13 46 52.75	16 32 59.0	117.38
13	12 8 44.64	5 58 15.5	148.07	13	13 49 1.41	16 44 43.3	116.48
14	12 10 47.86	6 13 3.9	147.67	14	13 51 10.25	16 56 22.2	115.55
15	12 12 51.10	6 27 49.9	147.25	15	13 53 19.27	17 7 55.5	114.63
16	12 14 54.38	6 42 33.4	146.83	16	13 55 28.48	17 19 23.3	113.68
17	12 16 57.70	6 57 14.4	146.40	17	13 57 37.87	17 30 45.4	112.73
18	12 19 1.06	7 11 52.8	145.95	18	13 59 47.45	17 42 1.8	111.78
19	12 21 4.48	7 26 28.5	145.50	19	14 1 57.21	17 53 12.5	110.82
20	12 23 7.95	7 41 1.5	145.03	20	14 4 7.17	18 4 17.4	109.82
21		7 55 31.7	144.55	21	14 6 17.31	18 15 16.3	108.85
22		59.0	144.07	22	14 8 27.64	18 26 9.4	107.83
23		4	143.57	23	14 10 38.17	18 36 56.4	106.83
24				24	14 12 48.88	S. 18 47 37.4	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. for
THURSDAY 9.				SATURDAY 11.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	14 12 48.88	S. 18 47 37.4	105.82	0	16 0 54.39	S. 25 4 22.7	47
1	14 14 59.79	18 58 12.3	104.78	1	16 3 13.04	25 9 5.3	45
2	14 17 10.89	19 8 41.0	103.73	2	16 5 31.78	25 13 39.7	44
3	14 19 22.19	19 19 3.4	102.70	3	16 7 50.61	25 18 5.7	42
4	14 21 33.67	19 29 19.6	101.63	4	16 10 9.50	25 22 23.4	41
5	14 23 45.35	19 39 29.4	100.57	5	16 12 28.48	25 26 32.8	40
6	14 25 57.23	19 49 32.8	99.50	6	16 14 47.52	25 30 33.9	38
7	14 28 9.29	19 59 29.8	98.40	7	16 17 6.62	25 34 26.6	37
8	14 30 21.55	20 9 20.2	97.32	8	16 19 25.78	25 38 10.9	35
9	14 32 34.00	20 19 4.1	96.20	9	16 21 45.00	25 41 46.7	34
10	14 34 46.65	20 28 41.3	95.10	10	16 24 4.26	25 45 14.2	33
11	14 36 59.49	20 38 11.9	93.97	11	16 26 23.56	25 48 33.2	31
12	14 39 12.51	20 47 35.7	92.85	12	16 28 42.90	25 51 43.8	30
13	14 41 25.73	20 56 52.8	91.70	13	16 31 2.28	25 54 45.9	28
14	14 43 39.14	21 6 3.0	90.55	14	16 33 21.68	25 57 39.5	27
15	14 45 52.73	21 15 6.3	89.38	15	16 35 41.10	26 0 24.7	26
16	14 48 6.51	21 24 2.6	88.23	16	16 38 0.54	26 3 1.3	24
17	14 50 20.48	21 32 52.0	87.05	17	16 40 19.99	26 5 29.5	23
18	14 52 34.64	21 41 34.3	85.87	18	16 42 39.45	26 7 49.2	21
19	14 54 48.98	21 50 9.5	84.68	19	16 44 58.91	26 10 0.4	20
20	14 57 3.50	21 58 37.6	83.48	20	16 47 18.36	26 12 3.1	19
21	14 59 18.20	22 6 58.5	82.27	21	16 49 37.80	26 13 57.3	17
22	15 1 33.08	22 15 12.1	81.05	22	16 51 57.23	26 15 43.0	16
23	15 3 48.14	S. 22 23 18.4	79.83	23	16 54 16.63	S. 26 17 20.2	14
FRIDAY 10.				SUNDAY 12.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	15 6 3.37	S. 22 31 17.4	78.60	0	16 56 36.01	S. 26 18 48.9	13
1	15 8 18.78	22 39 9.0	77.35	1	16 58 55.36	26 20 9.1	11
2	15 10 34.35	22 46 53.1	76.12	2	17 1 14.67	26 21 20.9	10
3	15 12 50.09	22 54 29.8	74.85	3	17 3 33.94	26 22 24.2	9
4	15 15 6.00	23 1 58.9	73.60	4	17 5 53.15	26 23 19.0	7
5	15 17 22.08	23 9 20.5	72.33	5	17 8 12.32	26 24 5.3	6
6	15 19 38.31	23 16 34.5	71.05	6	17 10 31.42	26 24 43.2	4
7	15 21 54.70	23 23 40.8	69.78	7	17 12 50.45	26 25 12.7	3
8	15 24 11.25	23 30 39.5	68.48	8	17 15 9.42	26 25 33.7	2
9	15 26 27.95	23 37 30.4	67.18	9	17 17 28.30	26 25 46.3	0
10	15 28 44.80	23 44 13.5	65.90	10	17 19 47.10	26 25 50.5	0
11	15 31 1.79	23 50 48.9	64.58	11	17 22 5.81	26 25 46.3	2
12	15 33 18.93	23 57 16.4	63.27	12	17 24 24.43	26 25 33.7	3
13	15 35 36.21	24 3 36.0	61.97	13	17 26 42.95	26 25 12.7	4
14	15 37 53.62	24 9 47.8	60.63	14	17 29 1.36	26 24 43.5	6
15	15 40 11.17	24 15 51.6	59.30	15	17 31 19.66	26 24 5.9	7
16	15 42 28.84	24 21 47.4	57.95	16	17 33 37.85	26 23 19.9	9
17	15 44 46.64	24 27 35.1	56.63	17	17 35 55.92	26 22 25.8	10
18	15 47 4.56	24 33 14.9	55.27	18	17 38 13.86	26 21 23.3	11
19	15 49 22.60	24 38 46.5	53.93	19	17 40 31.67	26 20 12.7	13
20	15 51 40.75	24 44 10.1	52.57	20	17 42 49.34	26 18 53.9	14
21	15 53 59.01	24 49 25.5	51.22	21	17 45 6.87	26 17 26.8	15
22	15 56 17.37	24 54 32.8	49.83	22	17 47 24.26	26 15 51.7	17
23	15 58 35.83	24 59 31.8	48.48	23	17 49 41.50	26 14 8.4	18
24	16 0 54.39	S. 25 4 22.7		24	17 51 58.58	S. 26 12 17.0	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>MONDAY 13.</i>				<i>WEDNESDAY 15.</i>			
0	^h 17 ^m 51 ^s 58 ^{.58}	S. 26° 12' 17 ^{.0}	19 ^{.90}	0	^h 19 ^m 37 ^s 20 ^{.18}	S. 22° 17' 36 ^{.1}	76 ^{.00}
1	17 54 15 ^{.50}	26 10 17 ^{.6}	21 ^{.25}	1	19 39 25 ^{.44}	22 10 0 ^{.1}	76 ^{.97}
2	17 56 32 ^{.26}	26 8 10 ^{.1}	22 ^{.57}	2	19 41 30 ^{.41}	22 2 18 ^{.3}	77 ^{.90}
3	17 58 48 ^{.85}	26 5 54 ^{.7}	23 ^{.90}	3	19 43 35 ^{.09}	21 54 30 ^{.9}	78 ^{.87}
4	18 1 5 ^{.26}	26 3 31 ^{.3}	25 ^{.22}	4	19 45 39 ^{.49}	21 46 37 ^{.7}	79 ^{.78}
5	18 3 21 ^{.49}	26 1 0 ^{.0}	26 ^{.53}	5	19 47 43 ^{.61}	21 38 39 ^{.0}	80 ^{.72}
6	18 5 37 ^{.54}	25 58 20 ^{.8}	27 ^{.85}	6	19 49 47 ^{.44}	21 30 34 ^{.7}	81 ^{.63}
7	18 7 53 ^{.39}	25 55 33 ^{.7}	29 ^{.15}	7	19 51 50 ^{.99}	21 22 24 ^{.9}	82 ^{.53}
8	18 10 9 ^{.06}	25 52 38 ^{.8}	30 ^{.45}	8	19 53 54 ^{.25}	21 14 9 ^{.7}	83 ^{.43}
9	18 12 24 ^{.53}	25 49 36 ^{.1}	31 ^{.73}	9	19 55 57 ^{.23}	21 5 49 ^{.1}	84 ^{.33}
10	18 14 39 ^{.80}	25 46 25 ^{.7}	33 ^{.02}	10	19 57 59 ^{.93}	20 57 23 ^{.1}	85 ^{.20}
11	18 16 54 ^{.87}	25 43 7 ^{.6}	34 ^{.30}	11	20 0 2 ^{.35}	20 48 51 ^{.9}	86 ^{.08}
12	18 19 9 ^{.72}	25 39 41 ^{.8}	35 ^{.57}	12	20 2 4 ^{.48}	20 40 15 ^{.4}	86 ^{.95}
13	18 21 24 ^{.36}	25 36 8 ^{.4}	36 ^{.85}	13	20 4 6 ^{.33}	20 31 33 ^{.7}	87 ^{.80}
14	18 23 38 ^{.79}	25 32 27 ^{.3}	38 ^{.10}	14	20 6 7 ^{.91}	20 22 46 ^{.9}	88 ^{.63}
15	18 25 53 ^{.00}	25 28 38 ^{.7}	39 ^{.33}	15	20 8 9 ^{.20}	20 13 55 ^{.1}	89 ^{.48}
16	18 28 6 ^{.98}	25 24 42 ^{.7}	40 ^{.58}	16	20 10 10 ^{.22}	20 4 58 ^{.2}	90 ^{.32}
17	18 30 20 ^{.74}	25 20 39 ^{.2}	41 ^{.83}	17	20 12 10 ^{.96}	19 55 56 ^{.3}	91 ^{.12}
18	18 32 34 ^{.26}	25 16 28 ^{.2}	43 ^{.05}	18	20 14 11 ^{.42}	19 46 49 ^{.6}	91 ^{.93}
19	18 34 47 ^{.55}	25 12 9 ^{.9}	44 ^{.27}	19	20 16 11 ^{.62}	19 37 38 ^{.0}	92 ^{.72}
20	18 37 0 ^{.61}	25 7 44 ^{.3}	45 ^{.48}	20	20 18 11 ^{.53}	19 28 21 ^{.7}	93 ^{.53}
21	18 39 13 ^{.42}	25 3 11 ^{.4}	46 ^{.68}	21	20 20 11 ^{.18}	19 19 0 ^{.5}	94 ^{.30}
22	18 41 25 ^{.99}	24 58 31 ^{.3}	47 ^{.88}	22	20 22 10 ^{.56}	19 9 34 ^{.7}	95 ^{.07}
23	18 43 38 ^{.32}	S. 24° 53' 44 ^{.0}	49 ^{.07}	23	20 24 9 ^{.67}	S. 19° 0' 4 ^{.3}	95 ^{.83}
<i>TUESDAY 14.</i>				<i>THURSDAY 16.</i>			
0	18 45 50 ^{.39}	S. 24° 48' 49 ^{.6}	50 ^{.25}	0	20 26 8 ^{.51}	S. 18° 50' 29 ^{.3}	96 ^{.58}
1	18 48 2 ^{.22}	24 43 48 ^{.1}	51 ^{.42}	1	20 28 7 ^{.09}	18 40 49 ^{.8}	97 ^{.33}
2	18 50 13 ^{.79}	24 38 39 ^{.6}	52 ^{.58}	2	20 30 5 ^{.41}	18 31 5 ^{.8}	98 ^{.07}
3	18 52 25 ^{.10}	24 33 24 ^{.1}	53 ^{.73}	3	20 32 3 ^{.46}	18 21 17 ^{.4}	98 ^{.80}
4	18 54 36 ^{.16}	24 28 1 ^{.7}	54 ^{.88}	4	20 34 1 ^{.26}	18 11 24 ^{.6}	99 ^{.50}
5	18 56 46 ^{.95}	24 22 32 ^{.4}	56 ^{.02}	5	20 35 58 ^{.80}	18 1 27 ^{.6}	100 ^{.23}
6	18 58 57 ^{.48}	24 16 56 ^{.3}	57 ^{.15}	6	20 37 56 ^{.08}	17 51 26 ^{.2}	100 ^{.93}
7	19 1 7 ^{.75}	24 11 13 ^{.4}	58 ^{.28}	7	20 39 53 ^{.12}	17 41 20 ^{.6}	101 ^{.62}
8	19 3 17 ^{.75}	24 5 23 ^{.7}	59 ^{.38}	8	20 41 49 ^{.90}	17 31 10 ^{.9}	102 ^{.30}
9	19 5 27 ^{.48}	23 59 27 ^{.4}	60 ^{.50}	9	20 43 46 ^{.43}	17 20 57 ^{.1}	103 ^{.00}
10	19 7 36 ^{.94}	23 53 24 ^{.4}	61 ^{.58}	10	20 45 42 ^{.72}	17 10 39 ^{.1}	103 ^{.65}
11	19 9 46 ^{.13}	23 47 14 ^{.9}	62 ^{.68}	11	20 47 38 ^{.76}	17 0 17 ^{.2}	104 ^{.32}
12	19 11 55 ^{.04}	23 40 58 ^{.8}	63 ^{.77}	12	20 49 34 ^{.56}	16 49 51 ^{.3}	104 ^{.97}
13	19 14 3 ^{.68}	23 34 36 ^{.2}	64 ^{.83}	13	20 51 30 ^{.12}	16 39 21 ^{.5}	105 ^{.62}
14	19 16 12 ^{.04}	23 28 7 ^{.2}	65 ^{.88}	14	20 53 25 ^{.45}	16 28 47 ^{.8}	106 ^{.27}
15	19 18 20 ^{.12}	23 21 31 ^{.9}	66 ^{.95}	15	20 55 20 ^{.54}	16 18 10 ^{.2}	106 ^{.88}
16	19 20 27 ^{.92}	23 14 50 ^{.2}	67 ^{.98}	16	20 57 15 ^{.40}	16 7 28 ^{.9}	107 ^{.50}
17	19 22 35 ^{.44}	23 8 2 ^{.3}	69 ^{.03}	17	20 59 10 ^{.03}	15 56 43 ^{.9}	108 ^{.12}
18	19 24 42 ^{.68}	23 1 8 ^{.1}	70 ^{.03}	18	21 1 4 ^{.44}	15 45 55 ^{.2}	108 ^{.72}
19	19 26 49 ^{.64}	22 54 7 ^{.9}	71 ^{.07}	19	21 2 58 ^{.62}	15 35 ^{.2} 9	109 ^{.32}
20	19 28 56 ^{.31}	22 47 1 ^{.5}	72 ^{.07}	20	21 4 52 ^{.59}	15 24 7 ^{.0}	109 ^{.90}
21	19 31 2 ^{.71}	22 39 49 ^{.1}	73 ^{.07}	21	21 6 46 ^{.33}	15 13 7 ^{.6}	110 ^{.50}
22	19 33 8 ^{.82}	22 32 30 ^{.7}	74 ^{.07}	22	21 8 39 ^{.86}	15 2 4 ^{.6}	111 ^{.05}
23	19 35 14 ^{.64}	22 25 6 ^{.3}	75 ^{.03}	23	21 10 33 ^{.18}	14 50 58 ^{.3}	111 ^{.63}
24	19 37 20 ^{.18}	S. 22° 17' 36 ^{.1}		24	21 12 26 ^{.29}	S. 14° 39' 48 ^{.5}	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. for
FRIDAY 17.				SUNDAY 19.			
0	21 12 26.29	S. 14 39 48.5	112.18	0	22 39 57.25	S. 4 51 40.1	130
1	21 14 19.20	14 28 35.4	112.73	1	22 41 44.47	4 38 36.1	130
2	21 16 11.90	14 17 19.0	113.28	2	22 43 31.66	4 25 30.8	131
3	21 18 4.41	14 5 59.3	113.80	3	22 45 18.84	4 12 24.1	131
4	21 19 56.72	13 54 36.5	114.35	4	22 47 6.00	3 59 16.2	131
5	21 21 48.83	13 43 10.4	114.85	5	22 48 53.16	3 46 7.0	131
6	21 23 40.76	13 31 41.3	115.37	6	22 50 40.31	3 32 56.7	131
7	21 25 32.50	13 20 9.1	115.88	7	22 52 27.46	3 19 45.2	132
8	21 27 24.06	13 8 33.8	116.38	8	22 54 14.62	3 6 32.5	132
9	21 29 15.43	12 56 55.5	116.85	9	22 56 1.79	2 53 18.8	132
10	21 31 6.63	12 45 14.4	117.35	10	22 57 48.97	2 40 4.1	132
11	21 32 57.66	12 33 30.3	117.83	11	22 59 36.17	2 26 48.3	132
12	21 34 48.51	12 21 43.3	118.30	12	23 1 23.39	2 13 31.6	132
13	21 36 39.20	12 9 53.5	118.75	13	23 3 10.64	2 0 14.0	133
14	21 38 29.73	11 58 1.0	119.22	14	23 4 57.92	1 46 55.5	133
15	21 40 20.09	11 46 5.7	119.67	15	23 6 45.24	1 33 36.1	133
16	21 42 10.31	11 34 7.7	120.10	16	23 8 32.59	1 20 15.9	133
17	21 44 0.36	11 22 7.1	120.53	17	23 10 19.99	1 6 54.9	133
18	21 45 50.27	11 10 3.9	120.95	18	23 12 7.44	0 53 33.2	133
19	21 47 40.04	10 57 58.2	121.38	19	23 13 54.95	0 40 10.8	133
20	21 49 29.66	10 45 49.9	121.78	20	23 15 42.51	0 26 47.8	133
21	21 51 19.14	10 33 39.2	122.20	21	23 17 30.14	S. 0 13 24.1	134
22	21 53 8.50	10 21 26.0	122.60	22	23 19 17.83	N. 0 0 0.2	134
23	21 54 57.72	S. 10 9 10.4	122.98	23	23 21 5.59	N. 0 13 25.0	134
SATURDAY 18.				MONDAY 20.			
0	21 56 46.81	S. 9 56 52.5	123.37	0	23 22 53.43	N. 0 26 50.3	134
1	21 58 35.78	9 44 32.3	123.75	1	23 24 41.35	0 40 16.1	134
2	22 0 24.63	9 32 9.8	124.12	2	23 26 29.35	0 53 42.3	134
3	22 2 13.37	9 19 45.1	124.48	3	23 28 17.44	1 7 8.9	134
4	22 4 1.99	9 7 18.2	124.85	4	23 30 5.63	1 20 35.9	134
5	22 5 50.51	8 54 49.1	125.18	5	23 31 53.92	1 34 3.2	134
6	22 7 38.92	8 42 18.0	125.53	6	23 33 42.31	1 47 30.7	134
7	22 9 27.24	8 29 44.8	125.88	7	23 35 30.82	2 0 58.4	134
8	22 11 15.45	8 17 9.5	126.22	8	23 37 19.44	2 14 26.4	134
9	22 13 3.58	8 4 32.2	126.53	9	23 39 8.18	2 27 54.5	134
10	22 14 51.62	7 51 53.0	126.85	10	23 40 57.04	2 41 22.6	134
11	22 16 39.57	7 39 11.9	127.17	11	23 42 46.04	2 54 50.9	134
12	22 18 27.45	7 26 28.9	127.47	12	23 44 35.17	3 8 19.1	134
13	22 20 15.25	7 13 44.1	127.78	13	23 46 24.44	3 21 47.3	134
14	22 22 2.98	7 0 57.4	128.07	14	23 48 13.86	3 35 15.5	134
15	22 23 50.64	6 48 9.0	128.35	15	23 50 3.42	3 48 43.5	134
16	22 25 38.24	6 35 18.9	128.65	16	23 51 53.14	4 2 11.4	134
17	22 27 25.78	6 22 27.0	128.92	17	23 53 43.01	4 15 39.0	134
18	22 29 13.27	6 9 33.5	129.18	18	23 55 33.05	4 29 6.4	134
19	22 31 0.70	5 56 38.4	129.43	19	23 57 23.26	4 42 33.5	134
20	22 32 48.09	5 43 41.8	129.70	20	23 59 13.64	4 56 0.2	134
21	22 34 35.43	5 30 43.6	129.95	21	0 1 4.20	5 9 26.5	134
22	22 36 22.74	5 17 43.9	130.20	22	0 2 54.94	5 22 52.4	134
23	22 38 10.01	5 4 42.7	130.43	23	0 4 45.86	5 36 17.8	134
24	22 39 57.25	S. 4 51 40.1		24	0 6 36.98	N. 5 49 42.6	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
<i>TUESDAY 21.</i>				<i>THURSDAY 23.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	0 6 36.98	N. 5 49 42.6	134.03	0	1 40 51.98	N. 16 5 5.9	117.93
1	0 8 28.29	6 3 6.8	133.92	1	1 42 58.44	16 16 53.5	117.32
2	0 10 19.81	6 16 30.3	133.82	2	1 45 5.34	16 28 37.4	116.67
3	0 12 11.52	6 29 53.2	133.68	3	1 47 12.66	16 40 17.4	116.02
4	0 14 3.45	6 43 15.3	133.57	4	1 49 20.42	16 51 53.5	115.37
5	0 15 55.60	6 56 36.7	133.42	5	1 51 28.62	17 3 25.7	114.67
6	0 17 47.97	7 9 57.2	133.27	6	1 53 37.26	17 14 53.7	113.97
7	0 19 40.56	7 23 16.8	133.12	7	1 55 46.34	17 26 17.5	113.27
8	0 21 33.38	7 36 35.5	132.95	8	1 57 55.88	17 37 37.1	112.55
9	0 23 26.44	7 49 53.2	132.78	9	2 0 5.87	17 48 52.4	111.78
10	0 25 19.74	8 3 9.9	132.58	10	2 2 16.32	18 0 3.1	111.05
11	0 27 13.29	8 16 25.4	132.42	11	2 4 27.22	18 11 9.4	110.27
12	0 29 7.08	8 29 39.9	132.22	12	2 6 38.59	18 22 11.0	109.48
13	0 31 1.13	8 42 53.2	132.00	13	2 8 50.43	18 33 7.9	108.68
14	0 32 55.45	8 56 5.2	131.78	14	2 11 2.73	18 44 0.0	107.85
15	0 34 50.02	9 9 15.9	131.57	15	2 13 15.51	18 54 47.1	107.03
16	0 36 44.87	9 22 25.3	131.32	16	2 15 28.76	19 5 29.3	106.17
17	0 38 40.00	9 35 33.2	131.08	17	2 17 42.48	19 16 6.3	105.30
18	0 40 35.41	9 48 39.7	130.82	18	2 19 56.69	19 26 38.1	104.43
19	0 42 31.10	10 1 44.6	130.57	19	2 22 11.38	19 37 4.7	103.52
20	0 44 27.08	10 14 48.0	130.27	20	2 24 26.55	19 47 25.8	102.60
21	0 46 23.36	10 27 49.6	130.00	21	2 26 42.21	19 57 41.4	101.68
22	0 48 19.93	10 40 49.6	129.70	22	2 28 58.36	20 7 51.5	100.72
23	0 50 16.82	N. 10 53 47.8	129.38	23	2 31 14.99	N. 20 17 55.8	99.77
<i>WEDNESDAY 22.</i>				<i>FRIDAY 24.</i>			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	0 52 14.01	N. 11 6 44.1	129.07	0	2 33 32.12	N. 20 27 54.4	98.78
1	0 54 11.52	11 19 38.5	128.76	1	2 35 49.74	20 37 47.1	97.78
2	0 56 9.34	11 32 31.0	128.40	2	2 38 7.86	20 47 33.8	96.75
3	0 58 7.50	11 45 21.4	128.05	3	2 40 26.47	20 57 14.3	95.73
4	1 0 5.98	11 58 9.7	127.68	4	2 42 45.57	21 6 48.7	94.68
5	1 2 4.79	12 10 55.8	127.32	5	2 45 5.18	21 16 16.8	93.60
6	1 4 3.95	12 23 39.7	126.93	6	2 47 25.29	21 25 38.4	92.52
7	1 6 3.45	12 36 21.3	126.55	7	2 49 45.89	21 34 53.5	91.42
8	1 8 3.29	12 49 0.6	126.12	8	2 52 6.99	21 44 2.0	90.30
9	1 10 3.49	13 1 37.3	125.72	9	2 54 28.59	21 53 3.8	89.15
10	1 12 4.05	13 14 11.6	125.28	10	2 56 50.70	22 1 58.7	88.00
11	1 14 4.97	13 26 43.3	124.83	11	2 59 13.30	22 10 46.7	86.82
12	1 16 6.25	13 39 12.3	124.38	12	3 1 36.40	22 19 27.6	85.63
13	1 18 7.91	13 51 38.6	123.90	13	3 4 0.01	22 28 1.4	84.42
14	1 20 9.94	14 4 2.0	123.43	14	3 6 24.11	22 36 27.9	83.18
15	1 22 12.36	14 16 22.6	122.95	15	3 8 48.71	22 44 47.0	81.95
16	1 24 15.16	14 28 40.3	122.43	16	3 11 13.80	22 52 58.7	80.68
17	1 26 18.35	14 40 54.9	121.92	17	3 13 39.40	23 1 2.8	79.40
18	1 28 21.94	14 53 6.4		18	3 16 5.48	23 8 59.2	78.10
19	1 30 25.93	15			3 18 32.06	23 16 47.8	76.78
20	1 32 30.31	15			3 20 59.13	23 24 28.5	75.45
21	1 34 35.11	15			3 23 26.68	23 32 1.2	74.10
22	1 36 40.32	15			54.72	23 39 25.8	72.73
23	1 38 45.94	15			24	23 46 42.2	71.35
24	1 40 51.98	N. 16				N. 23 53 50.3	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 th .	Hour.	Right Ascension.	Declination.	Diff. for
SATURDAY 25.				MONDAY 27.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	3 30 52.24	N.23 53 50.3	69.95	0	5 37 35.83	N.26 22 44.0	11
1	3 33 21.72	24 0 50.0	68.52	1	5 40 20.19	26 21 18.5	11
2	3 35 51.67	24 7 41.1	67.08	2	5 43 4.61	26 19 41.2	11
3	3 38 22.09	24 14 23.6	65.63	3	5 45 49.09	26 17 52.0	21
4	3 40 52.98	24 20 57.4	64.15	4	5 48 33.62	26 15 51.0	21
5	3 43 24.33	24 27 22.3	62.67	5	5 51 18.17	26 13 38.2	21
6	3 45 56.14	24 33 38.3	61.15	6	5 54 2.74	26 11 13.5	21
7	3 48 28.40	24 39 45.2	59.63	7	5 56 47.32	26 8 37.0	21
8	3 51 1.11	24 45 43.0	58.08	8	5 59 31.90	26 5 48.7	31
9	3 53 34.27	24 51 31.5	56.53	9	6 2 16.46	26 2 48.6	31
10	3 56 7.86	24 57 10.7	54.97	10	6 5 1.00	25 59 36.7	31
11	3 58 41.89	25 2 40.5	53.37	11	6 7 45.49	25 56 13.0	31
12	4 1 16.34	25 8 0.7	51.77	12	6 10 29.94	25 52 37.6	31
13	4 3 51.22	25 13 11.3	50.13	13	6 13 14.33	25 48 50.4	31
14	4 6 26.52	25 18 12.1	48.50	14	6 15 58.64	25 44 51.6	41
15	4 9 2.23	25 23 3.1	46.85	15	6 18 42.86	25 40 41.0	41
16	4 11 38.34	25 27 44.2	45.18	16	6 21 26.99	25 36 18.9	41
17	4 14 14.84	25 32 15.3	43.50	17	6 24 11.02	25 31 45.1	41
18	4 16 51.73	25 36 36.3	41.78	18	6 26 54.93	25 26 59.7	41
19	4 19 29.01	25 40 47.0	40.08	19	6 29 38.71	25 22 2.8	51
20	4 22 6.65	25 44 47.5	38.37	20	6 32 22.35	25 16 54.4	51
21	4 24 44.67	25 48 37.7	36.62	21	6 35 5.84	25 11 34.6	51
22	4 27 23.04	25 52 17.4	34.85	22	6 37 49.17	25 6 3.3	51
23	4 30 1.76	N.25 55 46.5	33.10	23	6 40 32.34	N.25 0 20.8	51
SUNDAY 26.				TUESDAY 28.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	
0	4 32 40.83	N.25 59 5.1	31.32	0	6 43 15.32	N.24 54 26.9	61
1	4 35 20.23	26 2 13.0	29.50	1	6 45 58.11	24 48 21.8	61
2	4 37 59.95	26 5 10.0	27.72	2	6 48 40.70	24 42 5.4	61
3	4 40 39.99	26 7 56.3	25.90	3	6 51 23.08	24 35 38.0	61
4	4 43 20.33	26 10 31.7	24.07	4	6 54 5.24	24 28 59.6	61
5	4 46 0.97	26 12 56.1	22.22	5	6 56 47.18	24 22 10.2	71
6	4 48 41.90	26 15 9.4	20.38	6	6 59 28.87	24 15 9.8	71
7	4 51 23.10	26 17 11.7	18.52	7	7 2 10.33	24 7 58.7	71
8	4 54 4.57	26 19 2.8	16.67	8	7 4 51.53	24 0 36.8	71
9	4 56 46.30	26 20 42.8	14.77	9	7 7 32.47	23 53 4.2	71
10	4 59 28.28	26 22 11.4	12.88	10	7 10 13.14	23 45 21.1	71
11	5 2 10.49	26 23 28.7	11.00	11	7 12 53.53	23 37 27.4	81
12	5 4 52.93	26 24 34.7	9.10	12	7 15 33.64	23 29 23.3	81
13	5 7 35.59	26 25 29.3	7.18	13	7 18 13.46	23 21 8.9	81
14	5 10 18.45	26 26 12.4	5.27	14	7 20 52.97	23 12 44.2	81
15	5 13 1.50	26 26 44.0	3.33	15	7 23 32.18	23 4 9.4	81
16	5 15 44.74	26 27 4.0	1.40	16	7 26 11.08	22 55 24.6	81
17	5 18 28.15	26 27 12.4	0.53	17	7 28 49.66	22 46 29.8	91
18	5 21 11.72	26 27 9.2	2.48	18	7 31 27.91	22 37 25.1	91
19	5 23 55.43	26 26 54.3	4.42	19	7 34 5.83	22 28 10.7	91
20	5 26 39.28	26 26 27.8	6.38	20	7 36 43.42	22 18 46.6	91
21	5 29 23.26	26 25 49.5	8.35	21	7 39 20.66	22 9 13.0	91
22	5 32 7.35	26 24 59.4	10.30	22	7 41 57.55	21 59 29.9	91
23	5 34 51.54	26 23 57.6	12.27	23	7 44 34.09	21 49 37.5	101
24	5 37 35.83	N.26 22 44.0		24	7 47 10.27	N.21 39 35.8	

MEAN TIME.

THE MOON'S RIGHT ASCENSION AND DECLINATION.

Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .	Hour.	Right Ascension.	Declination.	Diff. Dec. for 10 ^m .
WEDNESDAY 29.				FRIDAY 31.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	7 47 10.27	N. 21 39 35.8	101.80	0	9 44 28.76	N. 11 16 10.3	151.10
1	7 49 46.09	21 29 25.0	103.30	1	9 46 46.08	11 1 3.7	151.63
2	7 52 21.53	21 19 5.2	104.78	2	9 49 3.06	10 45 53.9	152.13
3	7 54 56.61	21 8 36.5	106.25	3	9 51 19.70	10 30 41.1	152.63
4	7 57 31.31	20 57 59.0	107.70	4	9 53 36.02	10 15 25.3	153.10
5	8 0 5.64	20 47 12.8	109.12	5	9 55 52.01	10 0 6.7	153.55
6	8 2 39.58	20 36 18.1	110.53	6	9 58 7.67	9 44 45.4	154.00
7	8 5 13.14	20 25 14.9	111.92	7	10 0 23.02	9 29 21.4	154.40
8	8 7 46.31	20 14 3.4	113.28	8	10 2 38.05	9 13 55.0	154.80
9	8 10 19.09	20 2 43.7	114.63	9	10 4 52.78	8 58 26.2	155.17
10	8 12 51.48	19 51 15.9	115.95	10	10 7 7.20	8 42 55.2	155.53
11	8 15 23.47	19 39 40.2	117.27	11	10 9 21.32	8 27 22.0	155.88
12	8 17 55.07	19 27 56.6	118.55	12	10 11 35.14	8 11 46.7	156.20
13	8 20 26.27	19 16 5.3	119.82	13	10 13 48.68	7 56 9.5	156.52
14	8 22 57.07	19 4 6.4	121.05	14	10 16 1.92	7 40 30.4	156.80
15	8 25 27.47	18 52 0.1	122.28	15	10 18 14.89	7 24 49.6	157.07
16	8 27 57.47	18 39 46.4	123.48	16	10 20 27.58	7 9 7.2	157.32
17	8 30 27.06	18 27 25.5	124.68	17	10 22 39.99	6 53 23.3	157.55
18	8 32 56.26	18 14 57.4	125.83	18	10 24 52.14	6 37 38.0	157.78
19	8 35 25.04	18 2 22.4	126.98	19	10 27 4.03	6 21 51.3	157.98
20	8 37 53.43	17 49 40.5	128.10	20	10 29 15.66	6 6 3.4	158.15
21	8 40 21.41	17 36 51.9	129.20	21	10 31 27.03	5 50 14.5	158.33
22	8 42 48.99	17 23 56.7	130.28	22	10 33 38.16	5 34 24.5	158.48
23	8 45 16.16	N. 17 10 55.0	131.35	23	10 35 49.05	N. 5 18 33.6	158.62
THURSDAY 30.				SATURDAY JAN. 1, 1842.			
	^h ^m ^s	[°] ['] ["]	["]		^h ^m ^s	[°] ['] ["]	["]
0	8 47 42.94	N. 16 57 46.9	132.38	0	10 37 59.69	N. 5 2 41.9	
1	8 50 9.31	16 44 32.6	133.40				
2	8 52 35.28	16 31 12.2	134.40				
3	8 55 0.85	16 17 45.8	135.38				
4	8 57 26.02	16 4 13.5	136.32				
5	8 59 50.79	15 50 35.6	137.27				
6	9 2 15.16	15 36 52.0	138.18				
7	9 4 39.15	15 23 2.9	139.07				
8	9 7 2.74	15 9 8.5	139.95				
9	9 9 25.94	14 55 8.8	140.78				
10	9 11 48.75	14 41 4.1	141.63				
11	9 14 11.18	14 26 54.3	142.43				
12	9 16 33.22	14 12 39.7	143.22				
13	9 18 54.88	13 58 20.4	144.00				
14	9 21 16.15	13 43 56.4	144.73				
15	9 23 37.05	13 29 28.0	145.47				
16	9 25 57.58	13 14 55.2	146.17				
17	9 28 17.74	13 0 18.2	146.87				
18	9 30 37.53	12 45 37.0	147.52				
19	9 32 56.96	12 30 51.9	148.18				
20	9 35 16.03	12 16 2.8	148.80				
21	9 37 34.74	12 1 10.0	149.40				
22	9 39 53.09	11 46 13.6	150.00				
23	9 42 11.10	11 31 13.6	150.55				
24	9 44 28.76	N. 11 16 10.3					

PHASES OF THE MOON.

☾ Last Quarter	-	5	0	16	0
● New Moon	-	12	9	34	7
☽ First Quarter	-	20	14	48	6
○ Full Moon	-	27	18	34	8

☾ Perigee	-	-	-	-	1	1
☾ Apogee	-	-	-	-	17	2
☾ Perigee	-	-	-	-	29	3

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^b .	P.L. of diff.	VI ^b .	P.L. of diff.	IX ^b .
		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u		^o ⁱ ^u
1	α Arietis W.	70 28 45	2175	72 17 50	2176	74 6 54	2178	75 55 55
	Aldebaran W.	38 50 20	2311	40 36 4	2301	42 22 2	2293	44 8 12
	Regulus E.	41 46 5	2170	39 56 52	2172	38 7 42	2174	36 18 36
	Spica η E.	95 48 21	2164	93 58 59	2165	92 9 39	2167	90 20 22
	Venus E.	120 45 17	2585	119 6 1	2585	117 26 46	2586	115 47 32
	SUN E.	143 17 48	2502	141 36 37	2500	139 55 24	2501	138 14 12
2	α Arietis W.	85 0 4	2196	86 48 38	2201	88 37 4	2205	90 25 24
	Aldebaran W.	53 0 36	2275	54 47 12	2276	56 33 47	2277	58 20 21
	Regulus E.	27 14 47	2206	25 26 28	2215	23 38 23	2224	21 50 3
	Spica η E.	81 14 58	2187	79 26 11	2192	77 37 31	2196	75 48 5
	Venus E.	107 32 6	2602	105 53 14	2607	104 14 28	2613	102 35 5
	SUN E.	129 48 41	2514	128 7 47	2517	126 26 58	2522	124 46 1
3	Aldebaran W.	67 12 8	2298	68 58 11	2303	70 44 7	2309	72 29 5
	Pollux W.	24 59 48	2344	26 44 43	2337	28 29 48	2333	30 14 5
	Spica η E.	66 48 23	2234	65 0 46	2241	63 13 19	2248	61 26
	Venus E.	94 24 34	2649	92 46 46	2657	91 9 8	2664	89 31 4
	SUN E.	116 24 38	2558	114 44 45	2564	113 5 1	2572	111 25 2
4	Aldebaran W.	81 16 27	2350	83 1 13	2357	84 45 49	2366	86 30 1
	Pollux W.	39 0 56	2341	40 45 56	2346	42 30 49	2351	44 15 3
	Spica η E.	52 32 39	2297	50 46 36	2307	49 0 46	2315	47 15
	Venus E.	81 27 10	2716	79 50 52	2726	78 14 46	2735	76 38 5
	SUN E.	103 10 24	2621	101 31 58	2629	99 53 43	2639	98 15 4
5	Aldebaran W.	95 9 7	2419	96 52 15	2428	98 35 10	2438	100 17 5
	Pollux W.	52 57 7	2390	54 40 56	2398	56 24 34	2406	58 8
	Regulus W.	15 56 59	2417	17 40 9	2417	19 23 20	2417	21 6 3
	Spica η E.	38 30 27	2373	36 46 14	2383	35 2 15	2394	33 18 3
	Venus E.	68 42 37	2794	67 8 1	2805	65 33 39	2815	63 59 3
	SUN E.	90 8 35	2695	88 31 48	2705	86 55 14	2714	85 18 5
6	Pollux W.	66 42 23	2454	68 24 41	2463	70 6 47	2471	71 48 4
	Regulus W.	29 40 51	2448	31 23 17	2455	33 5 34	2463	34 47 3
	Spica η E.	24 43 58	2466	23 1 57	2481	21 20 17	2497	19 39
	Venus E.	56 12 16	2880	54 39 31	2890	53 6 59	2902	51 34 4
	SUN E.	77 20 18	2772	75 45 14	2782	74 10 22	2792	72 35 4
7	Pollux W.	80 15 12	2522	81 55 55	2531	83 36 25	2539	85 16 4
	Regulus W.	43 15 24	2510	44 56 23	2518	46 37 11	2526	48 17 4
	Venus E.	43 56 56	2971	42 26 7	2984	40 55 34	2996	39 25 10
	SUN E.	61 45 40	2850	63 12 17	2859	61 39 6	2869	60 6
8	Pollux W.	93 35 19	2591	95 14 27	2599	96 53 23	2608	98 32
	Regulus W.	56 37 59	2575	58 17 28	2585	59 56 44	2592	61 35 50
	Venus E.	31 58 0	3081	30 29 27	3098	29 1 15	3116	27 33 21
	SUN E.	52 24 22	2927	50 52 38	2937	49 21 6	2946	47 49 40
9	Pollux W.	106 42 52	2661	108 20 25	2669	109 57 47	2678	111 34 5
	Regulus W.	69 48 30	2641	71 26 29	2649	73 4 17	2658	74 41 5
	SUN E.	40 16 11	3006	38 46 6	3016	37 16 13	3026	35 46 3
10	Regulus W.	82 47 10	2708	84 23 40	2716	85 59 59	2723	87 36

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^b .	P.L. of diff.	XVIII ^b .	P.L. of diff.	XXI ^b .	P.L. of diff.
		o i "		o i "		o i "		o i "	
1	α Arietis W.	77 44 53	2182	79 33 48	2184	81 22 39	2188	83 11 24	2192
	Aldebaran W.	45 54 30	2283	47 40 55	2279	49 27 26	2276	51 14 0	2275
	Regulus E.	34 29 35	2182	32 40 41	2187	30 51 54	2193	29 3 16	2199
	Spica η E.	88 31 8	2172	86 41 58	2175	84 52 53	2178	83 3 52	2182
	Venus E.	114 8 20	2590	112 29 10	2592	110 50 4	2596	109 11 3	2599
	SUN E.	136 33 0	2503	134 51 51	2505	133 10 44	2507	131 29 40	2510
2	α Arietis W.	92 13 35	2217	94 1 38	2222	95 49 33	2229	97 37 18	2235
	Aldebaran W.	60 6 52	2281	61 53 19	2285	63 39 41	2288	65 25 58	2293
	Regulus E.	20 2 56	2248	18 15 40	2264	16 28 48	2284	14 42 25	2310
	Spica η E.	74 0 33	2207	72 12 16	2214	70 24 9	2220	68 36 11	2227
	Venus E.	100 57 18	2623	99 18 54	2629	97 40 38	2636	96 2 32	2642
	SUN E.	123 5 40	2533	121 25 12	2538	119 44 52	2545	118 4 41	2551
3	Aldebaran W.	74 15 32	2321	76 1 1	2328	77 46 20	2335	79 31 29	2342
	Pollux W.	32 0 13	2330	33 45 28	2332	35 30 41	2334	37 15 51	2337
	Spica η E.	59 38 58	2264	57 52 5	2272	56 5 24	2281	54 18 56	2288
	Venus E.	87 54 24	2681	86 17 18	2690	84 40 24	2698	83 3 41	2707
	SUN E.	109 46 5	2588	108 6 53	2596	106 27 52	2604	104 49 2	2613
4	Aldebaran W.	88 14 25	2383	89 58 24	2391	91 42 11	2400	93 25 46	2410
	Pollux W.	46 0 11	2362	47 44 40	2369	49 28 59	2376	51 13 8	2383
	Spica η E.	45 29 45	2333	43 44 34	2343	41 59 38	2353	40 14 55	2363
	Venus E.	75 3 11	2754	73 27 43	2764	71 52 28	2774	70 17 26	2784
	SUN E.	96 37 51	2657	95 0 13	2666	93 22 48	2676	91 45 36	2684
5	Aldebaran W.	102 0 19	2457	103 42 32	2467	105 24 32	2477	107 6 18	2487
	Pollux W.	59 51 16	2421	61 34 20	2429	63 17 13	2438	64 59 54	2446
	Regulus W.	22 49 37	2424	24 32 37	2429	26 15 30	2435	27 58 15	2441
	Spica η E.	31 35 4	2416	29 51 52	2428	28 8 57	2440	26 26 19	2452
	Venus E.	62 25 37	2836	60 51 56	2847	59 18 29	2857	57 45 15	2869
	SUN E.	83 42 41	2783	82 6 48	2744	80 31 6	2753	78 55 36	2762
6	Pollux W.	73 30 23	2488	75 11 53	2496	76 53 12	2505	78 34 18	2514
	Regulus W.	36 29 34	2478	38 11 18	2486	39 52 51	2494	41 34 13	2502
	Spica η E.	17 58 7	2536	16 17 44	2561	14 37 56	2592	12 58 50	2633
	Venus E.	50 2 40	2924	48 30 52	2935	46 59 18	2947	45 27 59	2960
	SUN E.	71 1 18	2811	69 27 4	2821	67 53 3	2831	66 19 15	2841
7	Pollux W.	86 56 51	2556	88 36 46	2565	90 16 29	2574	91 56 0	2583
	Regulus W.	49 58 13	2543	51 38 26	2551	53 18 29	2559	54 58 20	2568
	Venus E.	37 55 15	3022	36 25 30	3036	34 56 2	3051	33 26 52	3065
	SUN E.	58 33 22	2889	57 0 49	2898	55 28 28	2908	53 56 19	2917
8	Pollux W.	100 10 40	2626	101 49 0	2634	103 27 9	2643	105 5 6	2651
	Regulus W.	63 14 44	2608	64 53 28	2617	66 32 0	2625	68 10 21	2634
	Venus E.	26 5 58	3157	24 38 57	3179	23 12 23	3205	21 46 20	3236
	SUN E.	46 18 38	2966	44 47 43	2976	43 17 0	2986	41 46 30	2995
9	Pollux W.	113 11 55	2696	114 48 41	2705	116 25 15	2714	118 1 37	2723
	Regulus W.	76 19 19	2675	77 56 33	2683	79 33 36	2690	81 10 29	2699
	SUN E.	34 17 5	3048	32 47 52	3058	31 18 51	3069	29 50 4	3082
10	Regulus W.	89 12 5	2741	90 47 51	2748	92 23 27	2757	93 58 51	2766

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P.L. of diff.	III ^h .	P.L. of diff.	VI ^h .	P.L. of diff.	IX ^h .
		° ' "		° ' "		° ' "		° ' "
14	α Pegasi E.	72 38 32	3138	71 11 9	3149	69 43 59	3160	68 17 2
	α Arietis E.	114 59 7	2982	113 28 32	2989	111 58 5	2995	110 27 46
15	SUN W.	28 59 51	3431	30 21 32	3436	31 43 8	3440	33 4 40
	α Pegasi E.	61 5 34	3228	59 39 58	3241	58 14 38	3253	56 49 31
	α Arietis E.	102 58 14	3033	101 28 42	3039	99 59 17	3044	98 29 59
16	SUN W.	39 51 10	3463	41 12 15	3466	42 33 17	3469	43 54 16
	α Pegasi E.	49 48 4	3340	48 24 39	3358	47 1 35	3376	45 38 5
	α Arietis E.	91 5 2	3073	89 36 19	3076	88 7 40	3080	86 39 4
17	SUN W.	50 38 29	3481	51 59 14	3481	53 19 59	3482	54 40 4
	α Pegasi E.	38 51 14	3517	37 31 9	3549	36 11 39	3583	34 52 4
	α Arietis E.	79 17 7	3095	77 48 51	3096	76 20 36	3097	74 52 2
	Aldebaran E.	111 32 17	3149	110 5 7	3149	108 37 57	3149	107 10 4
18	SUN W.	61 24 35	3476	62 45 26	3472	64 6 21	3470	65 27 1
	Mars W.	13 9 8	3445	14 30 34	3431	15 52 16	3419	17 14 1
	α Arietis E.	67 31 16	3094	66 2 59	3093	64 34 41	3090	63 6 1
	Aldebaran E.	99 54 34	3139	98 27 12	3138	96 59 48	3134	95 32 2
19	SUN W.	72 13 19	3441	73 34 49	3434	74 56 27	3428	76 18 1
	α Aquilæ W.	46 3 57	3353	47 10 1	34284	48 17 8	4221	49 25 1
	Mars W.	24 6 35	3363	25 29 34	3355	26 52 42	3346	28 16 1
	α Arietis E.	55 43 37	3069	54 14 50	3064	52 45 56	3059	51 16 5
	Aldebaran E.	88 13 50	3108	86 45 50	3102	85 17 44	3097	83 49 3
20	SUN W.	83 9 18	3375	84 32 3	3365	85 55 0	3353	87 18 1
	α Aquilæ W.	55 18 51	3916	56 31 54	3875	57 45 39	3835	59 0 4
	Mars W.	35 15 10	3289	36 39 34	3277	38 4 12	3266	39 29 4
	α Arietis E.	43 50 2	3019	42 20 13	3013	40 50 16	3004	39 20 4
	Aldebaran E.	76 26 19	3053	74 57 12	3044	73 27 54	3036	71 58 2
21	SUN W.	94 17 28	3277	95 42 6	3263	97 7 1	3248	98 32 1
	α Aquilæ W.	65 21 37	3630	66 39 39	3600	67 58 13	3570	69 17 2
	Mars W.	46 36 56	3189	48 3 18	3175	49 29 57	3160	50 56 5
	Fomalhaut W.	40 46 44	3907	41 59 57	3836	43 14 22	3769	44 29 5
	α Arietis E.	31 46 55	2955	30 15 46	2948	28 44 28	2940	27 13 4
	Aldebaran E.	64 28 1	2976	62 57 18	2964	61 26 20	2954	59 55 4
	Pollux E.	106 27 19	2923	104 55 29	2909	103 23 22	2895	101 50 5
22	SUN W.	105 42 52	3152	107 9 59	3134	108 37 28	3116	110 5 1
	α Aquilæ W.	76 0 19	3414	77 22 20	3390	78 44 48	3366	80 7 4
	Mars W.	58 16 18	3064	59 45 12	3047	61 14 26	3030	62 44 4
	Fomalhaut W.	51 3 12	3447	52 24 35	3404	53 46 47	3361	55 9 4
	α Pegasi W.	28 17 33	3551	29 37 1	3463	30 58 6	3385	32 20 4
	Aldebaran E.	52 15 36	2884	50 42 57	2873	49 10 4	2862	47 36 5
	Pollux E.	94 4 11	2805	92 29 50	2789	90 55 8	2773	89 20 4
23	SUN W.	117 30 5	3004	119 0 13	2985	120 30 45	2965	122 1 4
	α Aquilæ W.	87 8 35	3240	88 33 57	3221	89 59 42	3203	91 25 4
	Mars W.	70 17 41	2920	71 49 36	2900	73 21 55	2880	74 54 3
	Fomalhaut W.	62 15 51	3144	63 43 7	3112	65 11 2	3082	66 39 3
	α Pegasi W.	39 31 44	3043	41 1 3	3000	42 31 16	2960	44 2 1
	Aldebaran E.	39 48 3	2806	38 13 43	2799	36 39 14	2795	35 4 4

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P. L. of diff.	XV ^h .	P. L. of diff.	XVIII ^h .	P. L. of diff.	XXI ^h .	P. L. of diff.
14	α Pegasi E.	66 50 18	3181	65 23 46	3193	63 57 29	3204	62 31 24	3216
	α Arietis E.	108 57 36	3009	107 27 34	3014	105 57 39	3021	104 27 53	3027
15	SUN W.	34 26 6	3447	35 47 29	3452	37 8 47	3456	38 30 0	3459
	α Pegasi E.	55 24 41	3280	54 0 6	3291	52 35 48	3309	51 11 47	3325
	α Arietis E.	97 0 48	3055	95 31 43	3060	94 2 44	3064	92 33 50	3069
16	SUN W.	45 15 11	3474	46 36 4	3477	47 56 54	3479	49 17 42	3480
	α Pegasi E.	44 16 29	3416	42 54 30	3439	41 32 57	3463	40 11 51	3489
	α Arietis E.	85 10 36	3086	83 42 9	3089	82 13 46	3091	80 45 26	3092
17	SUN W.	56 1 28	3481	57 22 13	3481	58 42 58	3479	60 3 46	3478
	α Pegasi E.	33 34 36	3666	32 17 13	3716	31 0 43	3771	29 45 11	3837
	α Arietis E.	73 24 10	3097	71 55 57	3097	70 27 44	3096	68 59 30	3096
	Aldebaran E.	105 43 35	3147	104 16 23	3145	102 49 8	3144	101 21 52	3143
18	SUN W.	66 48 21	3462	68 9 27	3457	69 30 39	3453	70 51 56	3447
	Mars W.	18 36 19	3398	19 58 38	3398	21 21 8	3380	22 43 47	3372
	α Arietis E.	61 37 55	3085	60 9 27	3082	58 40 55	3078	57 12 19	3074
	Aldebaran E.	94 4 48	3127	92 37 11	3123	91 9 29	3119	89 41 42	3114
19	SUN W.	77 40 6	3412	79 2 9	3404	80 24 21	3394	81 46 44	3385
	α Aquilæ W.	50 34 16	4107	51 44 11	4054	52 54 57	4006	54 6 31	3959
	Mars W.	29 39 28	3328	31 3 7	3319	32 26 56	3309	33 50 57	3299
	α Arietis E.	49 47 48	3047	48 18 34	3041	46 49 12	3034	45 19 41	3027
	Aldebaran E.	82 21 10	3084	80 52 41	3077	79 24 3	3069	77 55 15	3062
20	SUN W.	88 41 32	3330	90 5 9	3318	91 29 0	3305	92 53 6	3291
	α Aquilæ W.	60 15 10	3761	61 30 53	3727	62 47 12	3693	64 4 7	3660
	Mars W.	40 54 7	3242	42 19 27	3230	43 45 1	3216	45 10 51	3203
	α Arietis E.	37 49 50	2988	36 19 22	2979	34 48 43	2971	33 17 54	2963
	Aldebaran E.	70 28 46	3017	68 58 54	3006	67 28 49	2996	65 58 32	2985
21	SUN W.	99 57 43	3218	101 23 31	3202	102 49 38	3185	104 16 5	3168
	α Aquilæ W.	70 36 56	3516	71 57 3	3489	73 17 40	3463	74 38 45	3438
	Mars W.	52 24 8	3130	53 51 41	3114	55 19 34	3098	56 47 46	3082
	Fomalhaut W.	45 46 38	3648	47 4 20	3593	48 23 2	3542	49 42 40	3493
	α Arietis E.	25 41 25	2929	24 9 43	2926	22 37 57	2924	21 6 9	2926
	Aldebaran E.	58 23 44	2931	56 52 4	2919	55 20 9	2908	53 48 0	2896
	Pollux E.	100 18 14	2867	98 45 13	2852	97 11 52	2837	95 38 12	2821
22	SUN W.	111 33 29	3079	113 2 4	3061	114 31 1	3043	116 0 21	3023
	α Aquilæ W.	81 31 4	3322	82 54 50	3300	84 19 1	3280	85 43 36	3259
	Mars W.	64 14 0	2994	65 44 20	2975	67 15 4	2957	68 46 11	2939
	Fomalhaut W.	56 33 34	3283	57 58 5	3247	59 23 19	3211	60 49 15	3177
	α Pegasi W.	33 44 34	3251	35 9 43	3193	36 36 0	3139	38 3 22	3090
	Aldebaran E.	46 3 36	2841	44 30 1	2831	42 56 13	2822	41 22 13	2814
	Pollux E.	87 44 40	2739	86 8 52	2722	84 32 42	2705	82 56 9	2688
23	SUN W.	123 33 4	2925	125 4 51	2905	126 37 4	2885	128 9 42	2866
	α Aquilæ W.	92 52 15	3162	94 19 2	3152	95 46 8	3138	97 13 32	3123
	Mars W.	76 27		77 1 22	2821	79 35 22	2801	81 9 48	2782
	Fomalhaut W.	68 5		69 10 94		71 8 47	2968	72 39 40	2941
	α Pegasi W.	45 3				46 40 14	2817	50 14 20	2784
	Aldebaran E.	33 3				34 51	2802	28 46 26	2813

MEAN TIME.

LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Noon.	P. L. of diff.	III ^h .	P. L. of diff.	VI ^h .	P. L. of diff.	IX ^h .
23	Pollux E.	81° 19' 13"	2669	79° 41' 52"	2652	78° 4' 8"	2635	76° 26' 0"
24	SUN W.	129 42 45	2845	131 16 15	2825	132 50 10	2805	134 24 31
	α Aquilæ W.	98 41 14	3110	100 9 11	3098	101 37 23	3087	103 5 49
	Mars W.	82 44 39	2762	84 19 57	2743	85 55 40	2723	87 31 50
	Fomalhaut W.	74 11 7	2915	75 43 7	2891	77 15 38	2866	78 48 40
	α Pegasi W.	51 49 9	2753	53 24 38	2724	55 0 46	2695	56 37 32
	Aldebaran E.	27 12 15	2831	25 38 27	2855	24 5 10	2890	22 32 38
	Pollux E.	68 9 7	2526	66 28 30	2508	64 47 28	2490	63 6 1
	Regulus E.	105 2 24	2505	103 21 18	2487	101 39 46	2468	99 57 48
25	α Aquilæ W.	110 30 27	3049	111 59 39	3049	113 28 51	3051	114 58 0
	Mars W.	95 39 10	2607	97 17 55	2588	98 57 6	2569	100 36 43
	Fomalhaut W.	86 41 3	2738	88 16 52	2720	89 53 5	2703	91 29 41
	α Pegasi W.	64 50 18	2543	66 30 32	2520	68 11 18	2498	69 52 34
	α Arietis W.	21 15 50	2460	22 57 59	2427	24 40 55	2399	26 24 31
	Pollux E.	54 32 34	2387	52 48 41	2371	51 4 24	2356	49 19 46
	Regulus E.	91 21 22	2357	89 36 46	2340	87 51 45	2323	86 6 15
26	Mars W.	109 0 49	2468	110 42 47	2452	112 25 8	2437	114 7 50
	Fomalhaut W.	99 37 47	2620	101 16 15	2610	102 54 57	2601	104 33 50
	α Pegasi W.	78 26 2	2382	80 10 3	2366	81 51 27	2349	83 39 15
	α Arietis W.	35 11 21	2263	36 58 15	2245	38 45 36	2227	40 33 24
	Pollux E.	40 31 21	2276	38 44 46	2265	36 57 55	2256	35 10 50
	Regulus E.	77 13 1	2225	75 25 11	2210	73 36 59	2196	71 48 26
27	α Pegasi W.	92 28 20	2272	94 15 1	2262	96 1 57	2252	97 49 7
	α Arietis W.	49 38 11	2139	51 28 10	2128	53 18 27	2116	55 9 2
	Aldebaran W.	19 20 1	2699	20 56 42	2599	22 35 39	2517	24 16 29
	Pollux E.	26 13 28	2241	24 26 1	2249	22 38 46	2264	20 51 54
	Regulus E.	62 40 42	2122	60 50 16	2111	58 59 34	2101	57 8 37
	Spica η E.	116 43 27	2122	114 53 2	2111	113 2 20	2101	111 11 23
28	α Pegasi W.	106 47 19	2221	108 35 15	2220	110 23 13	2219	112 11 12
	α Arietis W.	64 25 26	2066	66 17 18	2060	68 9 18	2055	70 1 27
	Aldebaran W.	32 59 26	2253	34 46 35	2229	36 34 19	2209	38 22 33
	Regulus E.	47 50 47	2059	45 58 44	2053	44 6 33	2050	42 14 17
	Spica η E.	101 53 20	2055	100 1 12	2050	98 8 55	2045	96 16 31
29	α Arietis W.	79 23 21	2041	81 15 51	2042	83 8 19	2043	85 0 46
	Aldebaran W.	47 29 5	2138	49 19 6	2132	51 9 16	2128	52 59 32
	Regulus E.	32 52 17	2046	30 59 55	2050	29 7 38	2053	27 15 27
	Spica η E.	86 53 24	2033	85 0 41	2034	83 8 0	2035	81 15 20
30	α Arietis W.	94 21 55	2065	96 13 48	2071	98 5 32	2077	99 57 0
	Aldebaran W.	62 11 21	2128	64 1 38	2132	65 51 49	2136	67 41 54
	Pollux W.	20 7 44	2232	21 55 24	2210	23 43 36	2195	25 32 11
	Spica η E.	71 53 12	2057	70 1 7	2064	68 9 12	2070	66 17 27
31	α Arietis W.	109 11 52	2130	111 2 6	2140	112 52 4	2151	114 41 46
	Aldebaran W.	76 49 58	2177	78 39 0	2186	80 27 48	2196	82 16 21
	Pollux W.	34 37 8	2180	36 26 6	2184	38 14 57	2190	40 3 39
	Spica η E.	57 1 47	2122	55 11 22	2133	53 21 13	2143	51 31 20
	SUN E.	135 6 58	2427	133 24 2	2438	131 41 22	2449	129 58 57

MEAN TIME.
LUNAR DISTANCES.

Day of the Month.	Star's Name and Position.	Midnight.	P.L. of diff.	XV ^h .	P.L. of diff.	XVIII ^h .	P.L. of diff.	XXI ^h .	P.L. of diff.
23	Pollux E.	74° 47' 27"	2598	73° 8' 29"	2580	71° 29' 7"	2562	69° 49' 20"	2543
24	SUN W.	135 59 18	2766	137 34 31	2746	139 10 10	2727	140 46 14	2708
	α Aquilæ W.	104 34 27	3068	106 3 16	3061	107 32 13	3056	109 1 17	3051
	Mars W.	89 8 26	2684	90 45 28	2664	92 22 56	2645	94 0 50	2626
	Fomalhaut W.	80 22 12	2671	81 56 13	2799	83 30 42	2777	85 5 40	2758
	α Pegasi W.	58 14 55	2641	59 52 54	2615	61 31 29	2591	63 10 37	2567
	Aldebaran E.	21 1 6	3002	19 30 56	3090	18 2 34	3213	16 36 40	3380
	Pollux E.	61 24 8	2455	59 41 51	2437	57 59 9	2421	56 16 4	2403
	Regulus E.	98 15 23	2431	96 32 32	2412	94 49 14	2394	93 5 31	2376
25	α Aquilæ W.	116 27 5	3062	117 56 1	3071	119 24 46	3084	120 53 15	3100
	Mars W.	102 16 44	2535	103 57 9	2517	105 37 59	2500	107 19 12	2483
	Fomalhaut W.	93 6 39	2671	94 43 58	2656	96 21 37	2643	97 59 34	2631
	α Pegasi W.	71 34 19	2456	73 16 34	2436	74 59 17	2418	76 42 26	2399
	α Arietis W.	28 8 45	2347	29 53 36	2324	31 39 0	2303	33 24 56	2283
	Pollux E.	47 34 45	2326	45 49 23	2312	44 3 41	2299	42 17 40	2287
	Regulus E.	84 20 28	2289	82 34 12	2272	80 47 32	2256	79 0 28	2241
26	Mars W.	115 50 53	2409	117 34 15	2395	119 17 57	2382	121 1 57	2371
	Fomalhaut W.	106 12 53	2588	107 52 4	2584	109 31 21	2582	111 10 40	2581
	α Pegasi W.	85 24 25	2320	87 9 56	2307	88 55 45	2292	90 41 54	2282
	α Arietis W.	42 21 37	2194	44 10 13	2180	45 59 11	2165	47 48 31	2152
	Pollux E.	33 23 34	2242	31 36 9	2237	29 48 37	2235	28 1 2	2236
	Regulus E.	69 59 32	2169	68 10 18	2156	66 20 44	2144	64 30 52	2132
27	α Pegasi W.	99 36 28	2238	101 23 59	2232	103 11 39	2227	104 59 26	2223
	α Arietis W.	56 59 51	2096	58 50 56	2088	60 42 14	2079	62 33 45	2073
	Aldebaran W.	25 58 52	2396	27 42 32	2351	29 27 17	2313	31 12 58	2281
	Pollux E.	19 5 34	2319	17 20 2	2368	15 35 41	2439	13 53 2	2548
	Regulus E.	55 17 26	2084	53 26 3	2077	51 34 28	2070	49 42 42	2064
	Spica ♀ E.	109 20 12	2083	107 28 47	2075	105 37 9	2068	103 45 20	2061
28	α Pegasi W.	113 59 9	2223	115 47 3	2227	117 34 51	2232	119 22 31	2239
	α Arietis W.	71 53 41	2048	73 46 1	2044	75 38 26	2043	77 30 53	2042
	Aldebaran W.	40 11 13	2177	42 0 16	2165	43 49 37	2154	45 39 14	2145
	Regulus E.	40 21 57	2045	38 29 33	2044	36 37 8	2044	34 44 42	2044
	Spica ♀ E.	94 24 1	2038	92 31 26	2035	90 38 47	2034	88 46 6	2033
29	α Arietis W.	86 53 10	2048	88 45 30	2051	90 37 44	2055	92 29 53	2059
	Aldebaran W.	54 49 52	2124	56 40 15	2124	58 30 38	2124	60 21 1	2126
	Regulus E.	25 23 24	2066	23 31 32	2075	21 39 54	2085	19 48 32	2099
	Spica ♀ E.	79 22 44	2040	77 30 12	2043	75 37 45	2047	73 45 25	2052
30	α Arietis W.	101 48 29	2092	103 39 40	2101	105 30 37	2109	107 21 22	2119
	Aldebaran W.	69 31 51	2147	71 21 39	2153	73 11 17	2161	75 0 44	2169
	Pollux W.	27 21 0	2179	29 9 59	2177	30 59 2	2176	32 48 6	2177
	Spica ♀ E.	64 25 53	2035	62 34 31	2094	60 43 22	2103	58 52 27	2113
31	α Arietis W.	116 31 11	2174	118 20 17	2186	120 9 5	2199	121 57 34	2213
	Aldebaran W.	84 4 38	2218	85 52 39	2229	87 40 23	2241	89 27 50	2254
	Pollux W.	41 52 11	2204	43 40 32	2213	45 28 40	2223	47 16 34	2233
	Spica ♀ E.	49 41 46	2167	47 52 29	2180	46 2 1	2191	44 14 52	2206
	SUN E.	128 16 48	2472	126 34 5					2518

CONFIGURATIONS OF THE SATELLITES OF JUPITER

THE SATELLITES OF JUPITER

are not visible this Month,

JUPITER being too near to the SUN.

ECLIPSES OF THE SATELLITES OF JUPITER.

THE ECLIPSES OF THE SATELLITES OF JUPITER

are not visible this Month,

JUPITER being too near to the SUN.

APPROXIMATE SIDEREAL TIMES
OF THE
OCCULTATIONS OF JUPITER'S SATELLITES BY JUPITER,
AND OF THE
TRANSITS OF THE SATELLITES AND THEIR SHADOWS
OVER THE DISC OF THE PLANET.

THE SATELLITES OF JUPITER

are not visible this Month,

JUPITER being too near to the SUN.

Day of the Month.	For correcting the Places of the Fixed Stars. At Mean Midnight,				Mean Time of Transit of the First Point of Aries.	Mean Equinoctial Time, adding 0 ^h 809 ^m 52 ^s .	From Mean Noon of January 1.	
	Logarithm of						Day of the Year.	Fraction of the Year.
	A	B	C	D				
	Days.							
1	+0.8116	+1.2809	+0.0739	-0.6624	^h 7 ^m 18 ^s 20	253	334	.914
2	0.7902	1.2837	0.0753	0.6606	7 14 11.29	254	335	.917
3	0.7676	1.2863	0.0766	0.6588	7 10 15.37	255	336	.920
4	+0.7436	+1.2888	+0.0779	-0.6570	7 6 19.46	256	337	.923
5	0.7180	1.2911	0.0792	0.6553	7 2 23.55	257	338	.925
6	0.6906	1.2933	0.0805	0.6537	6 58 27.64	258	339	.928
7	+0.6613	+1.2953	+0.0819	-0.6521	6 54 31.73	259	340	.931
8	0.6296	1.2972	0.0832	0.6505	6 50 35.81	260	341	.934
9	0.5954	1.2989	0.0845	0.6490	6 46 39.90	261	342	.936
10	+0.5580	+1.3005	+0.0858	-0.6476	6 42 43.99	262	343	.939
11	0.5169	1.3019	0.0872	0.6462	6 38 48.08	263	344	.942
12	0.4714	1.3033	0.0885	0.6449	6 34 52.16	264	345	.945
13	+0.4204	+1.3044	+0.0898	-0.6436	6 30 56.25	265	346	.947
14	0.3624	1.3055	0.0912	0.6424	6 27 0.34	266	347	.950
15	0.2953	1.3063	0.0925	0.6413	6 23 4.43	267	348	.953
16	+0.2158	+1.3071	+0.0938	-0.6402	6 19 8.51	268	349	.956
17	0.1181	1.3077	0.0951	0.6392	6 15 12.60	269	350	.958
18	9.9917	1.3082	0.0965	0.6382	6 11 16.69	270	351	.961
19	+9.8125	+1.3085	+0.0978	-0.6373	6 7 20.78	271	352	.964
20	+9.5010	1.3087	0.0991	0.6365	6 3 24.86	272	353	.966
1	-8.1696	1.3088	0.1004	0.6358	5 59 28.95	273	354	.969
2	-9.5402	+1.3087	+0.1017	-0.6351	5 55 33.04	274	355	.972
3	9.8318	1.3085	0.1030	0.6345	5 51 37.12	275	356	.975
4	0.0046	1.3081	0.1043	0.6340	5 47 41.21	276	357	.977
5	-0.1278	+1.3077	+0.1056	-0.6335	5 43 45.30	277	358	.980
6	0.2236	1.3070	0.1069	0.6331	5 39 49.39	278	359	.983
7	0.3018	1.3063	0.1082	0.6327	5 35 53.47	279	360	.986
8	-0.3680	+1.3054	+0.1094	-0.6325	5 31 57.56	280	361	.988
9	0.4254	1.3043	0.1107	0.6323	5 28 1.65	281	362	.991
10	0.4759	1.3031	0.1120	0.6321	5 24 5.73	282	363	.994
11	0.5210	1.3018	0.1132	0.6320	5 20	283	364	.997
12	-0.5617	+1.3004	+0.1145	-0.6320			365	1.000

266 OBLIQUITY OF THE ECLIPTIC, &

1841.	Apparent Obliquity.	The Sun's		Equation of Equinoxes.		Me Long of C ascen No
		Horizontal Parallax.	Aberration.	In Long.	In A.R. (in time.)	
Jan. 1	23° 27' 42".73	8".72	-20".71	+11".21	+0".69	320 1
11	42".69	8".72	20".70	11".83	0".72	319 4
21	42".77	8".71	20".68	12".22	0".75	319 1
31	23 27 42".89	8".70	20".66	12".47	0".76	318 3
Feb. 10	43".01	8".69	20".62	12".57	0".77	318
20	43".12	8".67	20".58	12".51	0".77	317 3
March 2	23 27 43".19	8".65	20".53	12".33	0".75	317
12	43".20	8".63	20".47	12".06	0".74	316 3
22	43".16	8".60	20".42	11".74	0".72	315 5
April 1	23 27 43".04	8".58	20".36	11".43	0".70	315 2
11	42".87	8".55	20".30	11".18	0".68	314 5
21	42".65	8".53	20".24	11".04	0".68	314 2
May 1	23 27 42".41	8".51	20".19	11".02	0".67	313 5
11	42".15	8".49	20".14	11".14	0".68	313 2
21	41".91	8".47	20".10	11".40	0".70	312 4
31	23 27 41".69	8".46	20".07	11".78	0".72	312 1
June 10	41".53	8".45	20".05	12".24	0".75	311 4
20	41".41	8".44	20".03	12".76	0".78	311 1
30	23 27 41".36	8".44	20".02	13".27	0".81	310 4
July 10	41".36	8".44	20".03	13".75	0".84	310
20	41".42	8".45	20".04	14".15	0".87	309 3
30	23 27 41".50	8".45	20".06	14".43	0".88	309
Aug. 9	41".61	8".46	20".09	14".57	0".89	308 3
19	41".71	8".48	20".13	14".58	0".89	308
29	23 27 41".78	8".50	20".17	14".46	0".88	307 3
Sept. 8	41".82	8".52	20".22	14".22	0".87	306 3
18	41".80	8".54	20".28	13".92	0".85	306 3
28	23 27 41".72	8".57	20".34	13".59	0".83	305 1
Oct. 8	41".57	8".59	20".40	13".28	0".81	305 1
18	41".37	8".62	20".45	13".04	0".80	304 1
28	23 27 41".13	8".64	20".51	12".91	0".79	304 1
Nov. 7	40".86	8".66	20".56	12".93	0".79	303 1
17	40".59	8".68	20".61	13".09	0".80	303
27	23 27 40".34	8".70	20".65	13".40	0".82	302
Dec. 7	40".13	8".71	20".68	13".83	0".85	302
17	39".99	8".72	20".70	14".33	0".88	301
27	23 27 39".91	8".72	20".71	14".86	0".91	301
37	23 27 39".89	8".72	-20".71	+15".36	+0".94	300

Mean Obliquity, Jan. 1, 1841 = 23° 27' 36".06.

Daily 1

-3

EPHEMERIS
OF
THE PLANETS.

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	17 23 32.98	S. 22 37 25.5	0.0860406	22 41.6	213 22 29.7	N. 1 35 24.9	9.641
2	17 29 31.63	22 50 18.0	.0910693	22 43.7	216 27 19.4	1 13 10.9	.642
3	17 35 35.32	23 2 15.6	.0958338	22 45.9	219 29 5.8	0 51 6.3	.648
4	17 41 43.66	23 13 14.8	.1003455	22 48.2	222 28 5.6	0 29 13.2	.651
5	17 47 56.32	23 23 13.3	.1046148	22 50.5	225 24 35.8	N. 0 7 33.7	.654
6	17 54 13.01	23 32 8.6	.1086514	22 52.9	228 18 51.9	S. 0 13 50.6	.657
7	18 0 33.44	23 39 58.3	.1124643	22 55.4	231 11 9.2	0 34 58.2	.659
8	18 6 57.36	23 46 40.4	.1160613	22 57.9	234 1 42.3	0 55 47.7	.661
9	18 13 24.57	23 52 12.9	.1194501	23 0.5	236 50 45.5	1 16 17.9	.663
10	18 19 54.82	23 56 34.0	.1226382	23 3.1	239 38 32.3	1 36 27.5	.665
11	18 26 27.92	23 59 42.4	.1256313	23 5.7	242 25 15.9	1 56 15.6	.666
12	18 33 3.70	24 1 36.3	.1284357	23 8.4	245 11 9.6	2 15 40.9	.667
13	18 39 41.95	24 2 14.1	.1310562	23 11.2	247 56 25.9	2 34 42.5	.668
14	18 46 22.53	24 1 34.8	.1334977	23 14.0	250 41 17.5	2 53 19.4	.668
15	18 53 5.30	23 59 37.0	.1357639	23 16.8	253 25 56.6	3 11 30.5	.669
16	18 59 50.07	23 56 19.5	.1378596	23 19.6	256 10 36.0	3 29 14.7	.669
17	19 6 36.72	23 51 41.2	.1397865	23 22.5	258 55 27.0	3 46 30.8	.669
18	19 13 25.12	23 45 41.2	.1415474	23 25.4	261 40 42.4	4 3 17.4	.668
19	19 20 15.11	23 38 18.4	.1431447	23 28.3	264 26 34.2	4 19 33.3	.667
20	19 27 6.62	23 29 31.9	.1445800	23 31.2	267 13 14.9	4 35 16.9	.666
21	19 33 59.48	23 19 20.7	.1458538	23 34.2	270 0 57.1	4 50 26.6	.665
22	19 40 53.60	23 7 44.2	.1469671	23 37.2	272 49 53.6	5 5 0.6	.663
23	19 47 48.87	22 54 41.6	.1479198	23 40.2	275 40 17.0	5 18 57.0	.661
24	19 54 45.18	22 40 12.3	.1487111	23 43.2	278 32 20.7	5 32 13.5	.659
25	20 1 42.43	22 24 15.4	.1493401	23 46.2	281 26 18.5	5 41 47.9	.657
26	20 8 40.54	22 6 50.3	.1498053	23 49.3	284 22 24.3	5 56 37.4	.654
27	20 15 39.42	21 47 56.6	.1501041	23 52.3	287 20 52.7	6 7 39.1	.651
28	20 22 38.96	21 27 33.7	.1502338	23 55.4	290 21 58.5	6 17 49.8	.648
29	20 29 39.11	21 5 41.0	.1501905	23 58.5	293 25 57.5	6 27 6.0	.645
30	20 36 39.77	20 42 18.3	.1499700	* *	296 33 6.0	6 35 23.7	.641
31	20 43 40.85	20 17 25.2	.1495676	0 1.6	299 43 40.1	6 42 38.7	.637
32	20 50 42.30	S. 19 51 1.4	0.1489767	0 4.6	302 57 57.8	S. 6 48 46.4	9.635

JANUARY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
17 29 11 '97	+15 '06	0 '19	S. 22 49 37 '4	-31 '2	2 '6	7 '0
17 35 15 '93	15 '26	0 '19	23 1 38 '9	28 '9	2 '6	7 '0
17 41 24 '60	15 '45	0 '19	23 12 42 '3	26 '4	2 '6	6 '9
17 47 37 '65	15 '63	0 '19	23 22 44 '9	23 '8	2 '6	6 '8
17 53 54 '75	15 '79	0 '19	23 31 44 '3	21 '1	2 '6	6 '8
18 0 15 '64	15 '94	0 '18	23 39 37 '9	18 '3	2 '5	6 '7
18 6 40 '06	16 '09	0 '18	23 46 23 '9	15 '4	2 '5	6 '6
18 13 7 '80	16 '22	0 '18	23 52 0 '0	12 '5	2 '5	6 '6
18 19 38 '63	16 '34	0 '18	23 56 24 '6	9 '5	2 '5	6 '5
18 26 12 '32	16 '46	0 '18	23 59 36 '4	6 '4	2 '5	6 '5
18 32 48 '74	16 '57	0 '18	24 1 33 '4	3 '3	2 '4	6 '4
18 39 27 '65	16 '67	0 '18	24 2 14 '0	- 0 '1	2 '4	6 '4
18 46 8 '88	16 '77	0 '18	24 1 37 '4	+ 3 '2	2 '4	6 '3
18 52 52 '39	16 '86	0 '18	23 59 42 '0	6 '5	2 '4	6 '3
18 59 37 '89	16 '94	0 '18	23 56 26 '6	9 '8	2 '4	6 '3
19 6 25 '28	17 '01	0 '17	23 51 50 '1	13 '2	2 '3	6 '2
19 13 14 '45	17 '08	0 '17	23 45 51 '7	16 '7	2 '3	6 '2
19 20 5 '23	17 '15	0 '17	23 38 29 '9	20 '2	2 '3	6 '2
19 26 57 '54	17 '21	0 '17	23 29 44 '4	23 '7	2 '3	6 '2
19 33 51 '22	17 '26	0 '17	23 19 33 '8	27 '2	2 '3	6 '1
19 40 46 '17	17 '31	0 '17	23 7 57 '5	30 '8	2 '3	6 '1
19 47 42 '28	17 '36	0 '17	22 54 54 '7	34 '4	2 '3	6 '1
19 54 39 '44	17 '40	0 '17	22 40 24 '9	38 '1	2 '3	6 '1
20 1 37 '56	17 '44	0 '17	22 24 27 '2	41 '8	2 '3	6 '1
20 8 36 '53	17 '47	0 '17	22 7 0 '8	45 '5	2 '3	6 '1
20 15 36 '29	17 '50	0 '17	21 48 5 '3	49 '2	2 '3	6 '1
20 22 36 '72	17 '53	0 '16	21 27 40 '5	52 '9	2 '3	6 '1
20 29 37 '77	17 '55	0 '16	21 5 45 '4	56 '7	2 '3	6 '1
20 36 39 '32	17 '57	0 '16	20 42 19 '9	60 '5	2 '3	6 '1
* * *		*	* * *	*	*	*
20 43 41 '3			20 17 23 '5	64 '3	2 '3	6 '1
20 50 43			50 56 '1	+68 '0	2 '3	6 '1

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	h m s	° ′ ″		h m	° ′ ″	° ′ ″	
1	20 50 42.30	S. 19 51 1.4	0.1489767	0 4.6	302 57 57.8	S. 6 48 46.4	9.6332
2	20 57 44.00	19 23 6.7	0.1481910	0 7.7	306 16 16.7	6 53 41.4	9.6287
3	21 4 45.91	18 53 41.0	0.1472027	0 10.8	309 38 56.1	6 57 18.4	9.6239
4	21 11 47.92	18 22 44.4	0.1460025	0 13.9	313 6 15.5	6 59 31.2	9.6189
5	21 18 49.95	17 50 16.9	0.1445813	0 17.0	316 38 31.9	7 0 13.3	9.6136
6	21 25 51.88	17 16 19.2	0.1429279	0 20.1	320 16 15.3	6 59 17.5	9.6081
7	21 32 53.60	16 40 51.4	0.1410298	0 23.2	323 59 38.1	6 56 36.6	9.6023
8	21 39 55.00	16 3 54.6	0.1388741	0 26.3	327 49 5.6	6 52 2.4	9.5963
9	21 46 55.89	15 25 29.6	0.1364458	0 29.4	331 44 59.8	6 45 26.8	9.5901
10	21 53 56.11	14 45 38.0	0.1337288	0 32.5	335 47 43.5	6 36 41.0	9.5837
11	22 0 55.42	14 4 21.5	0.1307056	0 35.5	339 57 39.1	6 25 36.4	9.5771
12	22 7 53.59	13 21 42.2	0.1273574	0 38.5	344 15 8.6	6 12 4.4	9.5704
13	22 14 50.29	12 37 43.2	0.1236632	0 41.5	348 40 33.1	5 55 56.6	9.5636
14	22 21 45.17	11 52 27.8	0.1196021	0 44.5	353 14 12.7	5 37 5.4	9.5567
15	22 28 37.79	11 6 0.2	0.1151507	0 47.5	357 56 25.1	5 15 24.2	9.5497
16	22 35 27.64	10 18 25.5	0.1102857	0 50.3	2 47 25.1	4 50 48.1	9.5428
17	22 42 14.10	9 29 49.8	0.1049823	0 53.2	7 47 24.7	4 23 14.4	9.5360
18	22 48 56.49	8 40 20.1	0.0992164	0 55.9	12 56 30.1	3 52 43.1	9.5293
19	22 55 33.96	7 50 4.9	0.0929626	0 58.6	18 14 43.6	3 19 17.9	9.5228
20	23 2 5.58	6 59 13.9	0.0861982	1 1.2	23 41 59.0	2 43 6.9	9.5166
21	23 8 30.25	6 7 58.2	0.0789008	1 3.7	29 18 3.5	2 4 23.2	9.5108
22	23 14 46.76	5 16 30.4	0.0710516	1 6.0	35 2 34.5	1 23 25.3	9.5055
23	23 20 53.75	4 25 4.8	0.0626356	1 8.2	40 55 0.1	S. 0 40 37.8	9.5007
24	23 26 49.72	3 33 56.9	0.0536423	1 10.2	46 54 38.0	N. 0 3 29.2	9.4966
25	23 32 33.01	2 43 23.8	0.0440678	1 11.9	53 0 34.2	0 48 19.9	9.4931
26	23 38 1.91	1 53 43.9	0.0339147	1 13.4	59 11 46.7	1 33 14.7	9.4900
27	23 43 14.58	1 5 16.2	0.0231947	1 14.7	65 27 1.9	2 17 30.7	9.4880
28	23 48 9.14	S. 0 18 21.1	0.0119292	1 15.7	71 44 58.4	3 0 23.9	9.4871
29	23 52 43.70	N. 0 26 40.9	0.0001486	1 16.3	78 4 9.9	N. 3 41 11.2	9.4871

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	20 50 43·66	+17·60	0·16	S. 19 50 56·1	+ 68·0	2·3	6·1
2	20 57 46·27	17·61	0·16	19 22 57·4	71·9	2·3	6·1
3	21 4 49·08	17·62	0·16	18 53 27·3	75·7	2·3	6·1
4	21 11 52·00	17·62	0·16	18 22 26·0	79·5	2·3	6·1
5	21 18 54·94	17·62	0·16	17 49 53·3	83·3	2·3	6·2
6	21 25 57·77	17·61	0·16	17 15 50·1	87·0	2·3	6·2
7	21 33 0·39	17·60	0·16	16 40 16·4	90·8	2·3	6·2
8	21 40 2·69	17·59	0·16	16 3 13·3	94·5	2·3	6·2
9	21 47 4·47	17·56	0·17	15 24 41·7	98·1	2·4	6·3
10	21 54 5·57	17·53	0·17	14 44 43·1	101·7	2·4	6·3
11	22 1 5·74	17·49	0·17	14 3 19·3	105·2	2·4	6·4
12	22 8 4·76	17·43	0·17	13 20 32·6	108·6	2·4	6·4
13	22 15 2·29	17·36	0·17	12 36 25·9	111·9	2·5	6·5
14	22 21 57·97	17·28	0·17	11 51 2·6	115·0	2·5	6·5
15	22 28 51·35	17·17	0·17	11 4 27·1	117·9	2·5	6·6
16	22 35 41·91	17·04	0·17	10 16 44·6	120·6	2·5	6·7
17	22 42 29·03	16·88	0·18	9 28 1·0	123·0	2·6	6·8
18	22 49 12·02	16·69	0·18	8 38 23·8	125·1	2·6	6·8
19	22 55 50·02	16·47	0·18	7 48 1·3	126·8	2·6	6·9
20	23 2 22·08	16·20	0·18	6 57 3·5	128·0	2·6	7·0
21	23 8 47·08	15·88	0·18	6 5 41·7	128·7	2·7	7·1
22	23 15 3·80	15·51	0·19	5 14 8·7	128·9	2·8	7·3
23	23 21 10·86	15·07	0·19	4 22 39·0	128·5	2·8	7·4
24	23 27 6·76	14·57	0·19	3 31 28·1	127·3	2·9	7·6
25	23 32 49·80	14·00	0·19	2 40 53·4	125·4	2·9	7·8
26	23 38 18·28	13·36	0·20	1 51 13·6	122·8	3·0	8·0
27	23 43 30·31	12·63	0·21	1 2 47·6	119·3	3·1	8·2
28	23 48 24·09	11·83	0·22	S. 0 15 56·1	114·9	3·2	8·4
29	23 52	35	0·22	N. 0 29 0·5	+109·7	3·2	8·6

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	L Rad
	Noon.	Noon.	Noon.		Noon.	Noon.	
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	23 52 43.70	N.0 26 40.9	0.0001486	1 16.3	78 4 9.9	N.3 41 11.2	9.48
2	23 56 56.34	1 9 29.1	9.9878949	1 16.5	84 23 5.7	4 19 12.7	.48
3	0 0 45.27	1 49 42.9	.9752204	1 16.4	90 40 14.9	4 53 53.4	.49
4	0 4 8.78	2 27 2.2	.9621881	1 15.8	96 54 9.8	5 24 44.8	.49
5	0 7 5.33	3 1 8.0	.9488711	1 14.8	103 3 27.4	5 51 25.9	.49
6	0 9 33.57	3 31 42.4	.9353528	1 13.3	109 6 52.3	6 13 43.8	.50
7	0 11 32.41	3 58 28.5	.9217264	1 11.3	115 3 19.1	6 31 33.4	.50
8	0 13 1.09	4 21 11.6	.9080922	1 8.8	120 51 53.5	6 44 56.5	.51
9	0 13 59.14	4 39 38.7	.8945587	1 5.8	126 31 52.5	6 54 1.1	.51
10	0 14 26.55	4 53 39.6	.8812407	1 2.3	132 2 44.2	6 59 0.1	.52
11	0 14 23.67	5 3 6.2	.8682567	0 58.3	137 24 8.8	7 0 9.9	.52
12	0 13 51.38	5 7 54.1	.8557288	0 53.8	142 35 55.4	6 57 49.3	.53
13	0 12 51.02	5 8 2.4	.8437793	0 48.9	147 38 2.2	6 52 18.2	.54
14	0 11 24.41	5 3 33.8	.8325287	0 43.5	152 30 34.3	6 43 57.3	.55
15	0 9 33.95	4 54 36.2	.8220927	0 37.7	157 13 43.8	6 33 6.4	.55
16	0 7 22.45	4 41 22.1	.8125780	0 31.6	161 47 46.5	6 20 4.9	.56
17	0 4 53.16	4 24 8.5	.8040794	0 25.2	166 13 2.7	6 5 10.8	.57
18	0 2 9.72	4 3 17.6	.7966757	0 18.6	170 29 54.9	5 48 40.7	.57
19	23 59 15.97	3 39 15.8	.7904300	0 11.8	174 38 47.4	5 30 49.7	.58
20	23 56 15.94	3 12 33.3	.7853827	{ ⁰ ₂₃ ⁴⁹ _{50.0} }	178 40 5.7	5 11 51.4	.59
21	23 53 13.64	2 43 43.1	.7815528	23 51.1	182 34 15.3	4 51 58.0	.59
22	23 50 12.97	2 13 19.4	.7789379	23 44.2	186 21 42.5	4 31 20.1	.60
23	23 47 17.66	1 41 57.7	.7775150	23 37.5	190 2 52.6	4 10 7.1	.60
24	23 44 31.07	1 10 12.5	.7772408	23 31.0	193 38 10.7	3 48 27.4	.61
25	23 41 56.18	0 38 36.0	.7780562	23 24.7	197 8 1.1	3 26 27.8	.61
26	23 39 35.53	N.0 7 38.6	.7798892	23 18.7	200 32 47.1	3 4 14.7	.62
27	23 37 31.20	S.0 22 13.4	.7826582	23 13.0	203 52 51.4	2 41 53.4	.62
28	23 35 44.85	0 50 36.4	.7862756	23 7.6	207 8 35.4	2 19 28.6	.63
29	23 34 17.62	1 17 11.6	.7906520	23 2.6	210 20 20.0	1 57 4.2	.63
30	23 33 10.29	1 41 43.5	.7956968	22 57.9	213 28 24.7	1 34 43.7	.64
31	23 32 23.27	2 3 59.9	.8013228	22 53.5	216 33 8.5	1 12 29.9	.64
32	23 31 56.65	S.2 23 52.4	9.8074476	22 49.4	219 34 49.3	N.0 50 25.8	9.6

MARCH, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^h ^m ^s 23 52 57.66	^s + 10.95	^s 0.22	[°] ['] ["] N. 0 29 0.5	["] + 109.7	["] 3.2	["] 8.6
23 57 9.13	9.99	0.23	1 11 41.4	103.6	3.4	8.9
0 0 56.73	8.96	0.23	1 51 46.1	96.7	3.4	9.1
0 4 18.76	7.86	0.23	2 28 54.8	88.9	3.5	9.4
0 7 13.73	6.70	0.25	3 2 48.6	80.4	3.7	9.7
0 9 40.34	5.50	0.26	3 33 9.8	71.2	3.8	10.0
0 11 37.51	4.26	0.26	3 59 41.9	61.4	3.9	10.3
0 13 4.54	2.99	0.27	4 22 10.5	50.9	4.0	10.6
0 14 1.05	1.72	0.29	4 40 23.0	40.0	4.2	11.0
0 14 27.05	+ 0.45	0.29	4 54 9.8	28.8	4.3	11.3
0 14 22.92	- 0.79	0.30	5 3 23.3	17.3	4.4	11.6
0 13 49.61	1.98	0.30	5 7 59.4	+ 5.7		
0 12 48.49	3.10	0.31	5 7 57.8	- 5.8	4.6	12.3
0 11 21.40	1.11	0.32	5 2 23.1			
0 9 30.74	5.00	0.33	4 54 15.0			
0 7 19.34	5.86	0.34	4 41 1.9	38.3	5.0	13.2
0 4 50.40	6.52	0.34	4 23 48.3	47.7	5.1	13.5
0 2 7.53	7.02	0.35	4 3 0.1	56.1	5.2	13.7
23 59 14.51	7.36	0.35	3 39 3.3	63.4	5.2	13.9
{ 23 56 15.02 }	{ 7.58 }	{ 0.36 }	{ 3 12 27.6 }	{ 69.4 }	{ 5.3 }	{ 14.1 }
{ 23 58 13.90 }	{ 7.55 }	{ 0.37 }	{ 2 43 45.9 }	{ 73.9 }	{ 5.4 }	{ 14.2 }
23 50 14.10	7.41	0.37	2 13 31.1	77.0	5.4	14.3
23 47 19.55	7.12	0.37	1 42 18.7	78.7	5.4	14.3
23 44 33.60	6.69	0.37	1 10 42.4	79.1	5.4	14.3
23 41 59.17	6.16	0.37	0 39 14.0	78.1	5.4	14.3
23 39 38.79	5.53	0.37	N. 0 8 23.5	75.9	5.4	14.3
23 37 34.52	4.82	0.37	S. 0 21 23.0	72.7	5.4	14.2
23 35 48.02	4.05	0.36	0 49 42.3	68.7	5.3	14.0
23 34 20.45	3.24	0.36	1 16 15.6	64.0	5.2	13.9
23 33 12.59	2.41	0.36	1 40 47.3	58.6	5.2	13.7
23 32 24.87	1.57	0.34	2 3 5.0	52.8	5.1	13.6
23 31 57.43	- 0.72	0.34	2 23 0.4	46.8	5.1	13.4
23 31 50.15	+ 0.11	0.34	S. 2 40 27.2	- 40.5	5.0	13.2

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lat.
	Noon.	Noon.	Noon.		Noon.	Noon.	
	<i>h m s</i>	<i>° ' "</i>		<i>h m</i>	<i>° ' "</i>	<i>° ' "</i>	
1	23 31 56.65	S. 2 23 52.4	9.8074476	22 49.4	219 34 49.3	N. 0 50 25.8	9.64
2	23 31 50.31	2 41 14.8	.8139938	22 45.7	222 33 44.0	0 28 33.1	.65
3	23 32 3.88	2 56 4.0	.8208904	22 42.3	225 30 9.6	N. 0 6 53.9	.65
4	23 32 36.85	3 8 18.5	.8280733	22 39.2	228 24 21.7	S. 0 14 29.9	.65
5	23 33 28.55	3 17 58.2	.8354854	22 36.4	231 16 35.6	0 35 37.0	.65
6	23 34 38.31	3 25 4.7	.8430752	22 33.9	234 7 5.6	0 56 25.9	.66
7	23 36 5.31	3 29 40.4	.8507988	22 31.7	236 56 6.2	1 16 55.5	.66
8	23 37 48.75	3 31 48.7	.8586170	22 29.7	239 43 50.5	1 37 4.4	.66
9	23 39 47.84	3 31 33.3	.8664971	22 28.0	242 30 32.4	1 56 51.8	.66
10	23 42 1.77	3 28 58.2	.8744100	22 26.5	245 16 24.6	2 16 16.3	.66
11	23 44 29.77	3 24 7.7	.8823321	22 25.2	248 1 40.2	2 35 17.3	.66
12	23 47 11.06	3 17 6.5	.8902427	22 24.1	250 46 31.1	2 53 53.4	.66
13	23 50 4.94	3 7 58.8	.8981245	22 23.3	253 31 9.9	3 12 3.7	.66
14	23 53 10.73	2 56 49.2	.9059637	22 22.6	256 15 48.9	3 29 47.0	.66
15	23 56 27.81	2 43 42.1	.9137486	22 22.1	259 0 40.4	3 47 2.2	.66
16	23 59 55.57	2 28 41.8	.9214696	22 21.8	261 45 56.5	4 3 47.9	.66
17	0 3 33.51	2 11 52.6	.9291189	22 21.7	264 31 49.6	4 20 3.0	.66
18	0 7 21.09	1 53 17.9	.9366900	22 21.6	267 18 32.2	4 35 45.4	.66
19	0 11 17.91	1 33 2.1	.9441780	22 21.8	270 6 16.4	4 50 54.0	.66
20	0 15 23.56	1 11 8.9	.9515791	22 22.1	272 55 15.1	5 5 26.9	.66
21	0 19 37.67	0 47 41.9	.9588896	22 22.5	275 45 41.4	5 19 22.1	.66
22	0 23 59.96	S. 0 22 44.3	.9661076	22 23.0	278 37 48.5	5 32 37.4	.65
23	0 28 30.17	N. 0 3 40.5	.9732307	22 23.7	281 31 50.0	5 45 10.4	.65
24	0 33 8.06	0 31 29.2	.9802574	22 24.5	284 28 0.3	5 56 58.5	.65
25	0 37 53.45	1 0 38.9	.9871854	22 25.5	287 26 33.3	6 7 58.7	.65
26	0 42 46.19	1 31 6.4	9.9940135	22 26.5	290 27 44.5	6 18 7.8	.65
27	0 47 46.21	2 2 49.0	0.0007405	22 27.7	293 31 49.2	6 27 22.2	.65
28	0 52 53.41	2 35 43.8	.0073635	22 29.0	296 39 3.5	6 35 38.1	.65
29	0 58 7.76	3 9 47.9	.0138819	22 30.4	299 49 44.5	6 42 51.1	.65
30	1 3 29.27	3 44 58.4	.0202924	22 31.9	303 4 9.3	6 48 56.6	.65
31	1 8 57.98	N. 4 21 12.9	0.0265925	22 33.6	306 22 36.4	S. 6 53 49.4	9.64

APRIL, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 23 31 50·15	^s + 0·11	^s 0·34	^o ⁱ ["] S. 2 40 27·2	["] —40·5	["] 5·0	["] 13·2
23 32 2·70	0·93	0·33	2 55 21·9	34·1	4·9	13·0
23 32 34·58	1·72	0·32	3 7 42·9	27·7	4·8	12·8
23 33 25·17	2·49	0·31	3 17 29·8	21·3	4·7	12·5
23 34 33·78	3·22	0·31	3 24 44·1	15·0	4·6	12·3
23 35 59·64	3·93	0·31	3 29 28·2	8·7	4·6	12·1
23 37 41·93	4·60	0·30	3 31 45·0	—2·7	4·5	11·9
23 39 39·92	5·23	0·30	3 31 38·5	+ 3·2	4·4	11·7
23 41 52·78	5·83	0·29	3 29 12·2	8·9	4·3	11·5
23 44 19·74	6·41	0·29	3 24 30·6	14·5	4·3	11·3
23 47 0·04	6·95	0·28	3 17 38·1	19·9	4·2	11·1
23 49 52·99	7·46	0·27	3 8 39·2	25·0	4·1	10·9
23 52 57·88	7·94	0·27	2 57 38·0	30·0	4·0	10·7
23 56 14·13	8·40	0·27	2 44 39·0	34·8	4·0	10·5
23 59 41·13	8·84	0·26	2 29 46·6	39·5	3·9	10·3
0 3 18·34	9·26	0·26	2 13 4·8	44·0	3·8	10·1
0 7 5·26	9·65	0·25	1 54 37·3	48·3	3·7	9·9
0 11 1·44	10·03	0·25	1 34 28·3	52·4	3·7	9·8
0 15 6·52	10·39	0·24	1 12 41·4	56·4	3·6	9·6
0 19 20·12	10·74	0·24	0 49 20·4	60·3	3·6	9·5
0 23 41·95	11·08	0·23	S. 0 24 28·5	64·0	3·5	9·3
0 28 11·74	11·40	0·23	N. 0 1 51·1	67·6	3·4	9·1
0 32 49·24	11·72	0·23	0 29 35·0	71·1	3·4	9·0
0 37 34·30	12·03	0·23	0 58 40·5	74·4	3·4	8·9
0 42 26·74	12·34	0·22	1 29 4·1	77·6	3·3	8·7
0 47 26·51	12·64	0·22	2 0 43·3	80·7	3·2	8·6
0 52 33·49	12·94	0·22	2 33 35·1	83·6	3·2	8·5
0 57 47·68	13·24	0·21	3 7 36·7	86·5	3·1	8·3
1 3 9·06	13·54	0·21	3 42 45·1	89·2	3·1	8·2
1 8 37·67	13·84	0·21	4 18 58·1	91·8	3·1	8·1
1 14 13·58	+14·15	0·20	N. 4 56 12·2	+94·3	3·0	8·0

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	1 8 57.98	N. 4 21 12.9	0.0265925	22 33.6	306 22 36.4	S. 6 53 49.4	9.628
2	1 14 33.95	4 58 28.1	.0327787	22 35.3	309 45 24.3	6 57 23.8	.628
3	1 20 17.27	5 36 41.3	.0388470	22 37.2	313 12 52.8	6 59 34.0	.618
4	1 26 8.08	6 15 49.6	.0447926	22 39.3	316 45 21.8	7 0 13.1	.613
5	1 32 6.53	6 55 49.9	.0506098	22 41.4	320 23 12.5	6 59 14.3	.607
6	1 38 12.78	7 36 38.7	.0562925	22 43.7	324 6 46.4	6 56 29.9	.608
7	1 44 27.06	8 18 12.8	.0618332	22 46.1	327 56 25.6	6 51 52.1	.590
8	1 50 49.56	9 0 28.4	.0672228	22 48.7	331 52 32.3	6 45 12.6	.589
9	1 57 20.55	9 43 21.5	.0724519	22 51.4	335 55 29.2	6 36 22.6	.588
10	2 4 0.27	10 26 47.7	.0775093	22 54.3	340 5 38.6	6 25 13.6	.570
11	2 10 48.97	11 10 42.3	.0823828	22 57.3	344 23 22.8	6 11 36.9	.570
12	2 17 46.91	11 55 0.3	.0870583	23 0.5	348 49 2.5	5 55 24.1	.568
13	2 24 54.37	12 39 35.7	.0915205	23 3.9	353 22 57.9	5 36 27.7	.550
14	2 32 11.56	13 24 22.4	.0957528	23 7.4	358 5 26.2	5 14 41.2	.549
15	2 39 38.71	14 9 13.4	.0997367	23 11.0	2 56 43.0	4 49 59.7	.548
16	2 47 15.98	14 54 1.1	.1034532	23 14.9	7 56 59.6	4 22 20.4	.538
17	2 55 3.48	15 38 37.0	.1068807	23 18.9	13 6 22.4	3 51 43.6	.528
18	3 3 1.29	16 22 52.1	.1099976	23 23.1	18 24 52.8	3 18 13.0	.528
19	3 11 9.34	17 6 36.4	.1127808	23 27.5	23 52 25.1	2 41 57.2	.518
20	3 19 27.50	17 49 39.3	.1152077	23 32.0	29 28 45.3	2 3 9.0	.518
21	3 27 55.50	18 31 49.3	.1172558	23 36.7	35 13 31.6	1 22 7.3	.508
22	3 36 32.94	19 12 54.7	.1189033	23 41.6	41 6 11.5	S. 0 39 16.8	.508
23	3 45 19.28	19 52 43.1	.1201284	23 46.6	47 6 2.1	N. 0 4 52.0	.498
24	3 54 13.80	20 31 2.1	.1209142	23 51.7	53 12 9.8	0 49 43.6	.498
25	4 3 15.62	21 7 39.0	.1212448	23 56.9	59 23 31.0	1 34 37.9	.498
26	4 12 23.74	21 42 22.2	.1211086	* *	65 38 51.9	2 18 52.0	.488
27	4 21 37.00	22 15 0.0	.1204973	0 2.2	71 56 52.4	3 1 41.9	.488
28	4 30 54.12	22 45 22.1	.1194083	0 7.5	78 16 5.1	3 42 24.7	.488
29	4 40 13.73	23 13 19.3	.1178426	0 12.9	84 31 59.2	4 20 20.5	.488
30	4 49 34.42	23 38 44.0	.1158067	0 18.3	90 52 4.4	4 54 54.5	.498
31	4 58 54.74	24 1 30.3	.1133106	0 23.8	97 5 52.3	5 25 38.4	.498
32	5 8 13.25	N. 24 21 33.6	0.1103693	0 29.1	103 15 0.3	N. 5 52 11.5	9.498

MAY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
1	^h 1 ^m 14 ^s 13·58	+ 14·15	0·20	N. 4° 56' 12"·2	+ 91·3	3·0	8·0
2	1 19 56·88	14·46	0·20	5 34 24·9	96·7	3·0	7·9
3	1 25 47·72	14·78	0·19	6 13 33·1	99·0	2·9	7·8
4	1 31 46·23	15·10	0·19	6 53 34·0	101·1	2·9	7·7
5	1 37 52·59	15·43	0·19	7 34 23·9	103·1	2·9	7·6
6	1 44 7·03	15·77	0·19	8 15 59·7	104·9	2·8	7·5
7	1 50 29·74	16·12	0·19	8 58 17·4	106·6	2·8	7·4
8	1 57 0·99	16·48	0·19	9 41 13·3	108·1	2·8	7·3
9	2 3 41·03	16·85	0·18	10 24 43·0	109·4	2·7	7·2
10	2 10 30·11	17·24	0·18	11 8 41·5	110·5	2·7	7·1
11	2 17 28·51	17·63	0·18	11 53 4·1	111·4	2·6	7·0
12	2 24 36·52	18·04	0·18	12 37 44·9	112·0	2·6	7·0
13	2 31 54·32	18·45	0·18	13 22 37·4	112·3	2·6	6·9
14	2 39 22·18	18·87	0·18	14 7 35·0	112·4	2·6	6·8
15	2 47 0·26	19·30	0·18	14 52 29·8	112·1	2·6	6·8
16	2 54 48·68	19·73	0·18	15 37 13·4	111·5	2·5	6·7
17	3 2 47·51	20·17	0·18	16 21 36·7	110·4	2·5	6·7
18	3 10 56·70	20·60	0·18	17 5 29·6	108·9	2·5	6·6
19	3 19 16·12	21·02	0·18	17 48 41·5	107·0	2·5	6·6
20	3 27 45·53	21·43	0·18	18 31 0·7	104·6	2·5	6·5
21	3 36 24·50	21·82	0·18	19 12 15·4	101·6	2·5	6·5
22	3 45 12·49	22·18	0·18	19 52 13·1	98·1	2·5	6·5
23	3 54 8·76	22·51	0·18	20 30 41·1	94·1	2·5	6·5
24	4 3 12·46	22·79	0·18	21 7 26·6	89·6	2·5	6·5
25	4 12 22·53	23·04	0·18	21 42 17·8	84·6	2·5	6·5
26	* * *	*	*	* * *	*	*	*
27	4 21 37·83	23·23	0·18	22 15 2·7	79·1	2·5	6·5
28	4 30 57·04	23·36	0·18	22 45 31·1	73·2	2·5	6·5
29	4 40 18·76	23·44	0·18	23 13 33·6	67·0	2·5	6·5
30	4 49 41·57			23 39 2·4	60·4	2·5	6·6
31	4 59 3·96			1 51·5	53·6	2·5	6·6
32	5 8 24·53				+ 46·7	2·5	6·7

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	5 8 13.25	N. 24 21 33.6	0.1103693	0 29.1	103 15 0.3	N. 5 52 11.5	9.4968
2	5 17 28.55	24 38 51.9	.1070000	0 34.5	109 18 12.8	6 14 21.1	.5010
3	5 26 39.35	24 53 23.9	.1032233	0 39.7	115 14 26.2	6 32 2.4	.5058
4	5 35 44.40	25 5 10.8	.0990613	0 44.9	121 2 45.6	6 45 17.3	.5112
5	5 44 42.56	25 14 14.7	.0945371	0 49.9	126 42 28.2	6 54 14.1	.5170
6	5 53 32.84	25 20 38.9	.0896749	0 54.8	132 13 3.3	6 59 5.7	.5232
7	6 2 14.32	25 24 28.1	.0844982	0 59.6	137 34 10.5	7 0 8.7	.5297
8	6 10 46.22	25 25 47.7	.0790306	1 4.2	142 45 39.2	6 57 41.8	.5364
9	6 19 7.88	25 24 43.7	.0732940	1 8.6	147 47 28.2	6 52 5.1	.5433
10	6 27 18.73	25 21 22.9	.0673098	1 12.9	152 39 43.0	6 43 39.2	.5502
11	6 35 18.27	25 15 51.9	.0610980	1 16.9	157 22 35.5	6 32 43.9	.5571
12	6 43 6.10	25 8 18.0	.0546770	1 20.8	161 56 21.7	6 19 38.7	.5640
13	6 50 41.91	24 58 48.6	.0480636	1 24.4	166 21 22.1	6 4 41.3	.5709
14	6 58 5.43	24 47 30.8	.0412737	1 27.9	170 37 59.1	5 48 8.4	.5776
15	7 5 16.39	24 34 32.2	.0343205	1 31.1	174 46 37.3	5 30 15.1	.5841
16	7 12 14.65	24 20 0.0	.0272179	1 34.1	178 47 42.0	5 11 13.0	.5901
17	7 19 0.08	24 4 1.2	.0199769	1 36.9	182 41 39.0	4 51 20.0	.5961
18	7 25 32.50	23 46 43.2	.0126089	1 39.5	186 28 54.2	4 30 40.8	.6021
19	7 31 51.81	23 28 12.6	.0051229	1 41.9	190 9 53.0	4 9 27.0	.6081
20	7 37 57.92	23 8 36.2	.99975277	1 44.0	193 45 0.6	3 47 46.4	.6141
21	7 43 50.72	22 48 1.0	.9898318	1 45.9	197 14 41.2	3 25 46.3	.6191
22	7 49 30.11	22 26 33.3	.9820428	1 47.6	200 39 18.2	3 3 32.9	.6241
23	7 54 55.98	22 4 19.5	.9741680	1 49.1	203 59 14.1	2 41 11.4	.6291
24	8 0 8.19	21 41 26.1	.9662145	1 50.4	207 14 50.4	2 18 46.5	.6331
25	8 5 6.63	21 17 59.4	.9581894	1 51.4	210 26 27.8	1 56 22.2	.6371
26	8 9 51.14	20 54 5.5	.9500998	1 52.2	213 34 25.7	1 34 1.9	.6411
27	8 14 21.56	20 29 50.6	.9419529	1 52.7	216 39 3.4	1 11 48.5	.6451
28	8 18 37.68	20 5 20.9	.9337559	1 53.0	219 40 38.9	0 49 44.6	.6481
29	8 22 39.32	19 40 42.3	.9255181	1 53.1	222 39 28.8	0 27 52.3	.6511
30	8 26 26.22	19 16 1.0	.9172480	1 52.9	225 35 49.9	N. 0 6 13.6	.6541
31	8 29 58.15	N. 18 51 23.4	.9089552	1 52.5	228 29 58.0	S. 0 15 9.7	9.6571

JUNE, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
1	^h 5 ^m 8 ^s 24·53	^s +23·30	^s 0·18	^o N. 24 ⁱ 21 ["] 56·2	["] +46·7	["] 2·5	["] 6·7
2	5 17 41·80	23·13	0·18	24 39 14·7	39·8	2·5	6·7
3	5 26 54·47	22·91	0·19	24 53 45·6	32·8	2·6	6·8
4	5 36 1·27	22·64	0·19	25 5 30·3	25·9	2·6	6·8
5	5 45 1·08	22·33	0·19	25 14 30·6	19·1	2·6	6·9
6	5 53 52·86	21·98	0·19	25 20 50·4	12·5	2·6	7·0
7	6 2 35·70	21·59	0·20	25 24 34·3	+ 6·2	2·7	7·1
8	6 11 8·80	21·17	0·20	25 25 47·8	0·0	2·7	7·1
9	6 19 31·51	20·72	0·20	25 24 37·1	- 5·9	2·7	7·2
0	6 27 43·26	20·25	0·21	25 21 9·2	11·4	2·8	7·4
1	6 35 43·54	19·77	0·21	25 15 30·7	16·7	2·8	7·4
2	6 43 31·97	19·27	0·21	25 7 49·0	21·7	2·9	7·6
3	6 51 8·25	18·75	0·21	24 58 11·7	26·4	2·9	7·7
4	6 58 32·08	18·23	0·21	24 46 46·0	30·7	2·9	7·8
5	7 5 43·22	17·70	0·22	24 33 39·6	34·8	3·0	7·9
16	7 12 41·54	17·16	0·22	24 18 59·8	38·5	3·0	8·0
17	7 19 26·89	16·62	0·23	24 2 53·7	41·9	3·1	8·2
18	7 25 59·13	16·07	0·23	23 45 28·7	45·1	3·1	8·3
19	7 32 18·14	15·52	0·24	23 26 51·4	48·0	3·2	8·5
20	7 38 23·84	14·96	0·24	23 7 8·9	50·5	3·3	8·6
21	7 44 16·14	14·40	0·24	22 46 28·0	52·8	3·3	8·8
22	7 49 54·94	13·83	0·25	22 24 55·1	54·9	3·4	8·9
23	7 55 20·12	13·26	0·25	22 2 36·7	56·6	3·4	9·1
24	8 0 31·55	12·69	0·25	21 39 39·4	58·1	3·5	9·3
25	8 5 29·12	12·11	0·25	21 16 9·4	59·3	3·5	9·4
26	8 10 12·70	11·52	0·26	20 52 12·9	60·3	3·6	9·6
27	8 14 42·11	10·93	0·26	20 27 56·0	61·0	3·7	9·8
28	8 18 57·16	10·33	0·27	20 3 25·1	61·5	3·8	10·0
29	8 22 57·67	9·71	0·27	19 38 46·0	61·7	3·9	10·2
30	8 26 43·38	9·09	0·27	19 14 4·9	61·6	3·9	10·4
31	8 30 14·06	+ 8·46	0·28	N. 18 49 28·3	-61·4	4·0	10·6

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	L Ra
	Noon.	Noon.	Noon.		Noon.	Noon.	
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	8 29 58.15	N. 18 51 23.4	9.9089552	1 52.5	228 29 58.0	S. 0 15 9.7	9.6
2	8 33 14.80	18 26 55.5	.9006520	1 51.8	231 22 8.3	0 36 16.3	.6
3	8 36 15.87	18 2 43.4	.8923499	1 50.8	234 12 35.3	0 57 4.6	.6
4	8 39 1.03	17 38 54.0	.8840626	1 49.6	237 1 33.5	1 17 33.5	.6
5	8 41 29.93	17 15 33.7	.8758076	1 48.1	239 49 15.8	1 37 41.8	.6
6	8 43 42.26	16 52 48.7	.8676019	1 46.4	242 35 55.9	1 57 28.4	.6
7	8 45 37.61	16 30 45.7	.8594671	1 44.4	245 21 46.8	2 16 52.3	.6
8	8 47 15.63	16 9 31.9	.8514257	1 42.0	248 7 1.3	2 35 52.5	.6
9	8 48 35.95	15 49 13.6	.8435045	1 39.4	250 51 51.7	2 54 27.8	.6
10	8 49 38.25	15 29 58.4	.8357326	1 36.5	253 36 30.4	3 12 37.3	.6
11	8 50 22.19	15 11 52.9	.8281434	1 33.3	256 21 10.2	3 30 19.8	.6
12	8 50 47.57	14 55 4.1	.8207746	1 29.7	259 6 2.3	3 47 34.1	.6
13	8 50 54.17	14 39 38.9	.8136671	1 25.9	261 51 19.4	4 4 18.8	.6
14	8 50 41.93	14 25 44.3	.8068651	1 21.7	264 37 14.0	4 20 32.7	.6
15	8 50 10.85	14 13 26.6	.8004183	1 17.3	267 23 58.1	4 36 14.2	.6
16	8 49 21.10	14 2 51.8	.7943797	1 12.5	270 11 44.6	4 51 21.8	.6
17	8 48 13.03	13 54 5.7	.7888047	1 7.4	273 0 46.2	5 5 53.6	.6
18	8 46 47.23	13 47 13.0	.7837541	1 2.1	275 51 15.6	5 19 47.6	.6
19	8 45 4.49	13 42 17.6	.7792891	0 56.4	278 43 26.1	5 33 1.6	.6
20	8 43 5.81	13 39 22.7	.7754723	0 50.5	281 37 31.7	5 45 33.3	.6
21	8 40 52.59	13 38 29.6	.7723658	0 44.4	284 33 45.9	5 57 19.9	.6
22	8 38 26.46	13 39 38.8	.7700308	0 38.0	287 32 23.8	6 8 18.5	.6
23	8 35 49.31	13 42 49.0	.7685229	0 31.5	290 33 40.1	6 18 26.0	.6
24	8 33 3.40	13 47 57.4	.7678956	0 24.8	293 37 50.9	6 27 38.7	.6
25	8 30 11.23	13 54 59.0	.7681918	0 18.0	296 45 11.5	6 35 52.7	.6
26	8 27 15.57	14 3 47.8	.7694475	0 11.2	299 55 59.2	6 43 3.7	.6
27	8 24 19.33	14 14 15.8	.7716867	{ 0 57.6	303 10 31.5	6 49 6.9	.6
28	8 21 25.62	14 26 13.6	.7749222	23 50.8	306 29 6.2	6 53 57.4	.6
29	8 18 37.59	14 39 31.0	.7791539	23 44.2	309 52 2.5	6 57 29.3	.6
30	8 15 58.35	14 53 55.7	.7843686	23 37.9	313 19 40.2	6 59 36.6	.6
31	8 13 31.04	15 9 15.7	.7905405	23 31.7	316 52 19.0	7 0 12.8	.6
32	8 11 18.57	N. 15 25 17.8	9.7976319	23 25.9	320 30 19.9	S. 6 59 10.8	9.6

JULY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
1	^h 8 ^m 30 ^s 14·06	^s + 8·46	^s 0·28	[°] N. 18 ['] 49 ["] 28·3	["] - 61·4	["] 4·0	["] 10·6
2	8 33 29·41	7·82	0·29	18 25 2·1	60·8	4·1	10·8
3	8 36 29·14	7·16	0·29	18 0 52·5	60·0	4·2	11·0
4	8 39 12·94	6·49	0·29	17 37 6·3	58·8	4·2	11·2
5	8 41 40·44	5·80	0·30	17 13 49·9	57·5	4·3	11·4
6	8 43 51·36	5·10	0·31	16 51 9·5	55·8	4·4	11·6
7	8 45 45·30	4·39	0·31	16 29 11·7	53·9	4·5	11·9
8	8 47 21·91	3·66	0·31	16 8 3·7	51·7	4·6	12·1
9	8 48 40·84	2·92	0·31	15 47 51·8	49·2	4·6	12·3
10	8 49 41·76	2·16	0·32	15 28 43·4	46·4	4·7	12·5
11	8 50 24·40	1·39	0·33	15 10 45·2	43·4	4·8	12·8
12	8 50 48·53	+ 0·62	0·34	14 54 3·8	40·0	4·9	13·0
13	8 50 53·97	- 0·16	0·35	14 38 46·4	36·4	5·0	13·2
14	8 50 40·67	0·94	0·35	14 24 59·8	32·5	5·1	13·4
15	8 50 8·65	1·72	0·36	14 12 49·9	28·3	5·1	13·6
16	8 49 18·10	2·49	0·36	14 2 22·6	23·9	5·2	13·8
17	8 48 9·40	3·23	0·37	13 53 43·8	19·3	5·3	14·0
18	8 46 43·14	3·95	0·37	13 46 57·8	14·5	5·3	14·1
19	8 45 0·12	4·63	0·38	13 42 8·4	9·6	5·4	14·3
20	8 43 1·37	5·26	0·38	13 39 18·8	- 4·6	5·4	14·4
21	8 40 48·27	5·82	0·38	13 38 29·9	+ 0·5	5·5	14·5
22	8 38 22·43	6·31	0·38	13 39 42·3	5·5	5·5	14·6
23	8 35 45·76	6·72	0·38	13 42 54·5	10·5	5·5	14·6
24	8 33 0·48	7·03	0·38	13 48 3·8	15·3	5·5	14·6
25	8 30 9·04	7·23	0·38	13 55 5·0	19·8	5·5	14·6
26	8 27 14·20	7·32	0·38	14 3 52·4	24·1	5·5	14·6
27	$\left\{ \begin{smallmatrix} 8 & 24 & 18 & \cdot 01 \\ 0 & 21 & 25 & \cdot 94 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 7 & \cdot 20 \\ 7 & \cdot 11 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 0 & \cdot 20 \\ 0 & \cdot 20 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 14 & 14 & 17 & \cdot 0 \\ 14 & 20 & 12 & \cdot 6 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 20 & \cdot 0 \\ 21 & \cdot 5 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 5 & \cdot 5 \\ 5 & \cdot 4 \end{smallmatrix} \right\}$	$\left\{ \begin{smallmatrix} 14 & \cdot 5 \\ 14 & \cdot 4 \end{smallmatrix} \right\}$
28	8 18 38·64	6·81	0·38	14 39 25·7	34·5	5·4	14·3
29	8 16 0·03	6·38	0·37	14 53 45·9	37·1	5·3	14·1
30	8 13 33·20	5·83	0·36	15 9 1·3	39·1	5·2	13·9
31	8 11 21·02	5·16	0·36	15 24 58·6	40·6	5·2	13·7
32	8 9 26·22			41 24·8	+ 41·5	5·1	13·4

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. V.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	8 11 18.57	N. 15 25 17.8	9.7976319	23 25.9	320 30 19.9	S. 6 59 10.8	9.60778
2	8 9 23.72	15 41 48.5	.8055935	23 20.4	324 14 5.0	6 56 23.0	.60200
3	8 7 48.92	15 58 34.8	.8143693	23 15.2	328 3 55.8	6 51 41.6	.59599
4	8 6 36.47	16 15 23.0	.8238918	23 10.5	332 0 15.0	6 44 58.0	.58977
5	8 5 48.28	16 32 0.0	.8340894	23 6.2	336 3 24.7	6 36 3.9	.58336
6	8 5 25.95	16 48 12.6	.8448869	23 2.3	340 13 48.0	6 24 50.4	.57678
7	8 5 30.81	17 3 48.3	.8562068	22 58.9	344 31 46.4	6 11 8.9	.57005
8	8 6 3.83	17 18 34.6	.8679683	22 56.0	348 57 41.1	5 54 51.2	.56321
9	8 7 5.72	17 32 19.3	.8800921	22 53.6	353 31 51.9	5 35 49.7	.55686
10	8 8 36.93	17 44 50.5	.8924989	22 51.6	358 14 36.5	5 13 57.9	.54931
11	8 10 37.60	17 55 56.5	.9051108	22 50.1	3 6 9.7	4 49 10.7	.54241
12	8 13 7.65	18 5 26.0	.9178525	22 49.2	8 6 42.6	4 21 25.9	.53561
13	8 16 6.76	18 13 7.7	.9306502	22 48.7	13 16 22.1	3 50 43.6	.52891
14	8 19 34.40	18 18 51.2	.9434330	22 48.6	18 35 9.3	3 17 7.8	.52241
15	8 23 29.80	18 22 25.8	.9561324	22 49.0	24 2 57.8	2 40 46.9	.51631
16	8 27 51.98	18 23 42.0	.9686827	22 49.9	29 39 34.3	2 1 54.3	.51051
17	8 32 39.76	18 22 30.8	.9810219	22 51.1	35 24 35.6	1 20 48.9	.50521
18	8 37 51.73	18 18 44.3	9.9930904	22 52.7	41 17 28.9	S. 0 37 55.7	.50051
19	8 43 26.37	18 12 15.7	0.0048339	22 54.7	47 17 31.6	N. 0 6 15.1	.49641
20	8 49 21.90	18 2 59.5	.0162018	22 57.0	53 23 49.6	0 51 7.3	.49301
21	8 55 36.40	17 50 52.4	.0271490	22 59.5	59 35 19.1	1 36 1.0	.49041
22	9 2 7.89	17 35 52.3	.0376361	23 2.4	65 50 46.5	2 20 13.2	.48876
23	9 8 54.21	17 17 59.2	.0476297	23 5.4	72 8 50.4	3 2 59.8	.48793
24	9 15 53.22	16 57 15.5	.0571035	23 8.6	78 28 3.4	3 43 38.0	.48806
25	9 23 2.73	16 33 44.9	.0660373	23 12.0	84 46 54.9	4 21 27.9	.48897
26	9 30 20.63	16 7 33.3	.0744194	23 15.5	91 3 55.1	4 55 55.2	.49081
27	9 37 44.87	15 38 48.3	.0822443	23 19.0	97 17 35.2	5 26 31.5	.49351
28	9 45 13.54	15 7 38.6	.0895125	23 22.6	103 26 33.1	5 52 56.6	.49701
29	9 52 44.89	14 34 14.1	.0962308	23 26.2	109 29 33.9	6 14 58.0	.50121
30	10 0 17.32	13 58 45.4	.1024112	23 29.8	115 25 33.1	6 32 31.0	.50601
31	10 7 49.44	13 21 23.6	.1080696	23 33.4	121 13 36.7	6 45 37.8	.51141
32	10 15 20.05	N. 12 42 19.9	0.1132244	23 36.9	126 53 2.4	N. 6 54 26.8	9.51721

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
8 9 26.22	— 4.39	0.35	N.15 41 24.8	+ 41.5	5.1	13.4
8 7 51.24	3.51	0.35	15 58 7.0	41.9	5.0	13.2
8 6 38.38	2.55	0.34	16 14 51.8	41.7	4.9	12.9
8 5 49.52	1.51	0.33	16 31 26.0	41.0	4.8	12.6
8 5 26.30	— 0.41	0.32	16 47 36.8	39.8	4.6	12.3
8 5 30.09	+ 0.74	0.31	17 3 11.6	38.0	4.5	12.0
8 6 1.84	1.93	0.31	17 17 58.1	35.8	4.4	11.6
8 7 2.34	3.13	0.30	17 31 44.0	33.0	4.3	11.3
8 8 32.08	4.35	0.30	17 44 17.5	29.8	4.2	11.0
8 10 31.20	5.58	0.28	17 55 26.9	26.0	4.0	10.7
8 12 59.70	6.80	0.27	18 5 0.8	21.8	3.9	10.4
8 15 57.28	8.00	0.27	18 12 47.7	17.1	3.8	10.1
8 19 23.46	9.18	0.26	18 18 37.0	12.0	3.7	9.8
8 23 17.49	10.32	0.26	18 22 18.2	6.4	3.6	9.5
8 27 38.44	11.42	0.25	18 23 41.5	+ 0.4	3.5	9.2
8 32 25.15	12.47	0.24	18 22 37.8	— 5.8	3.4	9.0
8 37 36.26	13.45	0.23	18 18 58.7	12.4	3.3	8.7
8 43 10.23	14.37	0.23	18 12 37.6	19.3	3.2	8.5
8 49 5.33	15.21	0.22	18 3 28.5	26.4	3.1	8.3
8 55 19.63	15.97	0.22	17 51 27.8	33.6	3.1	8.1
9 1 51.13	16.64	0.21	17 36 33.6	40.9	3.0	7.9
9 8 37.67	17.22	0.20	17 18 45.6	48.1	2.9	7.7
9 15 37.12	17.71	0.20	16 58 5.9	55.2	2.8	7.5
9 22 47.23	18.11	0.20	16 34 38.0	62.1	2.8	7.4
9 30 5.91	18.42	0.19	16 8 28.3	68.7	2.7	7.2
9 37 31.05	18.65	0.19	15 39 44.0	75.0	2.7	7.1
9 45 0.71	18.81	0.19	15 8 33.7	80.8	2.6	7.0
9 52 33.15	18.89	0.19	14 35 7.8	86.2	2.6	6.9
10 0 6.69	18.90	0.19	13 59 36.7	91.3	2.6	6.8
10 7 39.95	18.86	0.19	13 22 11.6	95.8	2.5	6.7
10 15 11.73	18.78	0.18	12 43 4.1	99.8	2.5	6.6
10 22 40.99	+18.65	0.17	N.12 2 25.0	—103.4	2.5	6.5

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	10 15 20.05	N. 12 42 19.9	0.1132244	23 36.9	126 53 2.4	N. 6 54 26.8	9.51
2	10 22 48.16	12 1 45.4	.1178976	23 40.4	132 23 20.0	6 59 11.0	.52
3	10 30 12.94	11 19 50.9	.1221120	23 43.8	137 44 9.2	7 0 7.2	.52
4	10 37 33.73	10 36 46.6	.1258913	23 47.1	142 55 19.9	6 57 34.2	.53
5	10 44 50.03	9 52 42.6	.1292591	23 50.4	147 56 50.9	6 51 52.0	.54
6	10 52 1.48	9 7 48.0	.1322393	23 53.6	152 48 47.7	6 43 21.1	.55
7	10 59 7.82	8 22 11.0	.1348542	23 56.6	157 31 22.9	6 32 21.6	.55
8	11 6 8.91	7 35 59.7	.1371261	23 59.6	162 4 52.4	6 19 12.6	.56
9	11 13 4.67	6 49 21.2	.1390754	* *	166 29 36.7	6 4 11.9	.57
10	11 19 55.10	6 2 22.2	.1407216	0 2.5	170 45 58.4	5 47 36.4	.57
11	11 26 40.26	5 15 8.4	.1420827	0 5.4	174 54 22.1	5 29 40.9	.58
12	11 33 20.25	4 27 45.2	.1431751	0 8.1	178 55 12.9	5 10 38.9	.59
13	11 39 55.17	3 40 17.4	.1440138	0 10.7	182 48 56.9	4 50 42.5	.59
14	11 46 25.23	2 52 49.9	.1446126	0 13.3	186 35 59.9	4 30 2.1	.60
15	11 52 50.59	2 5 26.2	.1449839	0 15.8	190 16 47.2	4 8 47.3	.60
16	11 59 11.43	1 18 9.7	.1451394	0 18.2	193 51 44.1	3 47 6.0	.61
17	12 5 27.95	N. 0 31 4.0	.1450884	0 20.5	197 21 14.7	3 25 5.4	.61
18	12 11 40.37	S. 0 15 48.1	.1448406	0 22.8	200 45 42.4	3 2 51.7	.62
19	12 17 48.87	1 2 23.9	.1444028	0 25.0	204 5 29.7	2 40 30.1	.62
20	12 23 53.69	1 48 41.0	.1437825	0 27.1	207 20 58.3	2 18 5.2	.63
21	12 29 55.00	2 34 37.0	.1429857	0 29.2	210 32 28.5	1 55 40.9	.63
22	12 35 53.01	3 20 10.0	.1420173	0 31.2	213 40 19.9	1 33 20.9	.64
23	12 41 47.91	4 5 18.0	.1408816	0 33.2	216 44 51.6	1 11 7.7	.64
24	12 47 39.89	4 49 59.5	.1395821	0 35.1	219 46 21.3	0 49 4.1	.64
25	12 53 29.13	5 34 12.5	.1381216	0 37.0	222 45 6.3	0 27 12.2	.65
26	12 59 15.78	6 17 55.5	.1365023	0 38.8	225 41 23.1	N. 0 5 34.0	.65
27	13 5 0.02	7 1 7.5	.1347253	0 40.6	228 35 27.6	S. 0 15 48.9	.65
28	13 10 41.98	7 43 46.5	.1327920	0 42.4	231 27 34.3	0 36 54.9	.65
29	13 16 21.80	8 25 51.3	.1307025	0 44.1	234 17 58.2	0 57 42.6	.66
30	13 21 59.61	9 7 20.6	.1284561	0 45.8	237 6 53.5	1 18 10.8	.66
31	13 27 35.50	S. 9 48 13.1	0.1260528	0 47.5	239 54 33.5	S. 1 38 18.5	9.66

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 10 22 40·99	+18·65	0·17	N. 12° 2' 25·0	—103·4	2·5	6·5
10 30 6·91	18·50	0·17	11 20 25·7	106·5	2·5	6·5
10 37 28·80	18·32	0·16	10 37 16·0	109·2	2·4	6·4
10 44 46·16	18·12	0·16	9 53 6·4	111·5	2·4	6·4
10 51 58·62	17·91	0·16	9 8 6·2	113·5	2·4	6·3
10 59 5·92	17·69	0·16	8 22 23·3	115·1	2·4	6·3
11 6 7·94	17·47	0·16	7 36 6·3	116·3	2·4	6·3
11 13 4·57	17·25	0·15	6 49 21·9	117·3	2·3	6·2
* * *	*	*	* * *	*	*	*
11 19 55·81	17·02	0·15	6 2 17·2	118·0	2·3	6·2
11 26 41·76	16·81	0·15	5 14 57·8	118·5	2·3	6·2
11 33 22·49	16·59	0·15	4 27 29·2	118·8	2·3	6·2
11 39 58·09	16·38	0·15	3 39 56·2	118·9	2·3	6·2
11 46 28·81	16·18	0·15	2 52 23·7	118·8	2·3	6·2
11 52 54·78	15·99	0·15	2 4 55·1	118·6	2·3	6·2
11 59 16·20	15·80	0·15	1 17 33·9	118·2	2·3	6·2
12 5 33·29	15·62	0·15	N. 0 30 23·8	117·7	2·3	6·2
12 11 46·23	15·46	0·15	S. 0 16 32·4	117·0	2·3	6·2
12 17 55·23	15·30	0·15	1 3 12·3	116·3	2·3	6·2
12 24 0·53	15·15	0·15	1 49 33·1	115·4	2·3	6·2
12 30 2·29	15·00	0·15	2 35 32·6	114·5	2·3	6·2
12 36 0·74	14·87	0·15	3 21 9·0	113·5	2·3	6·2
12 41 56·05	14·74	0·15	4 6 20·1	112·4	2·3	6·2
12 47 48·44	14·62	0·15	4 51 4·5	111·3	2·3	6·2
12 53 38·07	14·51	0·15	5 35 20·3	110·0	2·3	6·2
12 59 25·10	14·41	0·16	6 19 5·8	108·8	2·4	6·3
13 5 9·70	14·31	0·16	7 2 20·2	107·4	2·4	6·3
13 10 52·01	14·22	0·16	7 45 1·3	106·0	2·4	6·3
13 16 32·18	14·13	0·16	8 27 8·1	104·6	2·4	6·4
13 22 10·32	14·05	0·16	9 8 39·2	103·0	2·4	6·4
13 27 46·53	+13·97	0·16	S. 9 49 33·3	—101·5	2·4	6·4

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	No	
	^h ^m ^s	[°] ['] ^{''}		^h ^m	[°] ['] ^{''}	[°] ['] ^{''}		
1	13 27 35.50	S. 9 48 13.1	0.1260528	0 47.5	239 54 33.5	S. 1 38 18.5	9.665	
2	13 33 9.58	10 28 27.6	.1234903	0 49.1	242 41 11.6	1 58 4.4	.666	
3	13 38 41.95	11 8 2.6	.1207667	0 50.7	245 27 1.5	2 17 27.7	.667	
4	13 44 12.63	11 46 56.9	.1178804	0 52.3	248 12 15.0	2 36 27.1	.668	
5	13 49 41.71	12 25 9.1	.1148278	0 53.8	250 57 4.7	2 55 1.7	.668	
6	13 55 9.22	13 2 37.9	.1116058	0 55.3	253 41 43.1	3 13 10.4	.669	
7	14 0 35.11	13 39 22.1	.1082095	0 56.8	256 26 22.7	3 30 52.0	.668	
8	14 5 59.44	14 15 20.0	.1046354	0 58.3	259 11 15.5	3 48 5.4	.668	
9	14 11 22.13	14 50 30.2	.1008783	0 59.8	261 56 34.0	4 4 49.2	.668	
10	14 16 43.15	15 24 51.3	.0969332	1 1.1	264 42 29.8	4 21 2.1	.667	
11	14 22 2.36	15 58 21.4	.0927935	1 2.5	267 29 15.7	4 36 42.7	.666	
12	14 27 19.66	16 30 59.0	.0884533	1 3.8	270 17 4.2	4 51 49.2	.664	
13	14 32 34.89	17 2 42.2	.0839051	1 5.2	273 6 8.0	5 6 19.9	.663	
14	14 37 47.85	17 33 29.2	.0791422	1 6.4	275 56 40.3	5 20 12.6	.661	
15	14 42 58.27	18 3 18.0	.0741565	1 7.7	278 48 54.2	5 33 25.4	.659	
16	14 48 5.88	18 32 6.4	.0689398	1 8.8	281 43 3.6	5 45 55.8	.657	
17	14 53 10.32	18 59 52.4	.0634837	1 10.0	284 39 22.2	5 57 40.9	.654	
18	14 58 11.18	19 26 33.2	.0577790	1 11.0	287 38 4.7	6 8 38.0	.651	
19	15 3 7.99	19 52 6.7	.0518166	1 12.0	290 39 26.2	6 18 43.9	.648	
20	15 8 0.18	20 16 29.9	.0455875	1 13.0	293 43 42.2	6 27 54.8	.644	
21	15 12 47.12	20 39 39.9	.0390818	1 13.8	296 51 9.0	6 36 6.9	.641	
22	15 17 28.07	21 1 33.4	.0322901	1 14.5	300 2 3.3	6 43 15.9	.637	
23	15 22 2.21	21 22 7.3	.0252032	1 15.1	303 16 42.8	6 49 17.0	.632	
24	15 26 28.56	21 41 17.5	.0178128	1 15.6	306 35 25.3	6 54 5.1	.628	
25	15 30 46.05	21 59 0.2	.0101112	1 16.0	309 58 29.9	6 57 34.5	.623	
26	15 34 53.44	22 15 10.8	.0020916	1 16.1	313 26 16.3	6 59 39.2	.618	
27	15 38 49.33	22 29 44.5	.99937502	1 16.1	316 59 4.5	7 0 12.5	.613	
28	15 42 32.19	22 42 35.9	.9850847	1 15.9	320 37 15.7	6 59 7.3	.607	
29	15 46 0.26	22 53 38.9	.9760970	1 15.4	324 21 11.7	6 56 16.2	.601	
30	15 49 11.59	23 2 47.0	.9667944	1 14.6	328 11 14.1	6 51 31.1	.595	
31	15 52 4.05	23 9 52.8	.9571890	1 13.5	332 7 45.3	6 44 43.7	.589	
32	15 54 35.28	S. 23 14 48.0	.9473016	1 12.1	336 11 8.1	S. 6 35 45.4	.583	

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

MON.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	13 27 46.53	+13.97	0.16	S. 9 49 33.3	-101.5	2.4	6.4
2	13 33 20.94	13.90	0.17	10 29 49.3	99.9	2.5	6.5
3	13 38 53.62	13.83	0.17	11 9 25.5	98.2	2.5	6.5
4	13 44 24.60	13.76	0.17	11 48 20.9	96.4	2.5	6.5
5	13 49 53.97	13.69	0.17	12 26 33.9	94.6	2.5	6.6
6	13 55 21.77	13.62	0.18	13 4 3.4	92.8	2.5	6.6
7	14 0 47.93	13.56	0.18	13 40 48.1	90.9	2.5	6.7
8	14 6 12.53	13.49	0.19	14 16 46.3	88.9	2.6	6.8
9	14 11 35.47	13.42	0.19	14 51 56.7	86.9	2.6	6.8
10	14 16 56.74	13.35	0.19	15 26 17.6	84.8	2.6	6.9
11	14 22 16.17	13.27	0.19	15 59 47.5	82.7	2.6	6.9
12	14 27 33.67	13.19	0.19	16 32 24.5	80.4	2.6	7.0
13	14 32 49.10	13.10	0.19	17 4 7.0	78.1	2.7	7.1
14	14 38 2.23	13.00	0.19	17 34 52.9	75.7	2.7	7.1
15	14 43 12.79	12.88	0.19	18 4 40.5	73.2	2.7	7.2
16	14 48 20.51	12.76	0.20	18 33 27.5	70.7	2.8	7.3
17	14 53 25.03	12.62	0.20	19 1 11.7	68.0	2.8	7.4
18	14 58 25.92	12.46	0.20	19 27 50.4	65.2	2.8	7.5
19	15 3 22.72	12.27	0.20	19 53 21.6	62.3	2.9	7.6
20	15 8 14.85	12.07	0.20	20 17 42.1	59.3	2.9	7.7
21	15 13 1.68	11.83	0.20	20 40 49.1	56.2	2.9	7.8
22	15 17 42.44	11.56	0.21	21 2 39.3	52.9	3.0	8.0
23	15 22 16.32	11.25	0.22	21 23 9.4	49.5	3.1	8.1
24	15 26 42.32	10.90	0.22	21 42 15.5	45.9	3.1	8.2
25	15 30 59.37	10.51	0.23	21 59 53.7	42.2	3.2	8.4
26	15 35 6.22	10.05	0.23	22 15 59.4	38.2	3.2	8.6
27	15 39 1.46	9.54	0.24	22 30 27.9	34.1	3.3	8.7
28	15 42 43.55	8.96	0.25	22 43 13.6	29.7	3.4	8.9
29	15 46 10.72	8.29	0.25	22 54 10.5	25.0	3.4	9.1
30	15 49 21.02	7.55	0.26	23 3 12.2	20.1	3.5	9.3
1	15 52 12.31	6.71	0.27	23 10 11.2	14.8	3.6	9.5
2	15 54 42.26	+5.77	0.27	S. 23 14 59.2	-9.2	3.7	9.7

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vec.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	15 54 35.28	S. 23 14 48.0	9.9473016	1 12.1	336 11 8.1	S. 6 35 45.4	9.5831657
2	15 56 42.77	23 17 23.4	.9371632	1 10.3	340 21 44.9	6 24 27.5	.5765768
3	15 58 23.82	23 17 29.0	.9268180	1 8.0	344 39 57.5	6 10 41.3	.5698446
4	15 59 35.63	23 14 54.0	.9163238	1 5.2	349 6 7.0	5 54 18.7	.5630027
5	16 0 15.39	23 9 26.2	.9057596	1 1.9	353 40 33.1	5 35 12.0	.5560891
6	16 0 20.36	23 0 53.1	.8952254	0 58.1	358 23 33.4	5 13 14.9	.5491489
7	15 59 48.05	22 49 2.2	.8848456	0 53.6	3 15 22.9	4 48 22.4	.5422339
8	15 58 36.46	22 33 41.7	.8747739	0 48.4	8 16 12.4	4 20 32.1	.5354048
9	15 56 44.37	22 14 41.6	.8651915	0 42.6	13 26 8.7	3 49 44.4	.528723
10	15 54 11.54	21 51 55.8	.8563074	0 36.1	18 45 12.5	3 16 3.4	.522273
11	15 50 59.17	21 25 23.5	.8483532	0 29.0	24 13 17.0	2 39 37.7	.51612
12	15 47 10.06	20 55 12.5	.8415731	0 21.3	29 50 9.0	2 0 40.7	.51036
13	15 42 48.92	20 21 41.1	.8362126	0 13.0	35 35 25.2	1 19 31.7	.50508
14	15 38 2.36	19 45 20.1	.8324970	{ ⁰ ⁴⁴ ³ }	41 28 32.6	S. 0 36 35.5	.50036
15	15 32 58.71	19 6 53.9	.8306145	23 46.3	47 28 47.6	N. 0 7 37.1	.49636
16	15 27 47.60	18 27 19.2	.8306923	23 37.3	53 35 16.2	0 52 30.0	.49296
17	15 22 39.39	17 47 41.6	.8327834	23 28.5	59 46 54.0	1 37 23.1	.49041
18	15 17 44.35	17 9 11.9	.8368578	23 20.1	66 2 26.8	2 21 33.2	.48872
19	15 13 11.94	16 32 58.7	.8428033	23 12.1	72 20 34.0	3 4 16.5	.48791
20	15 9 10.27	16 0 4.4	.8504377	23 4.8	78 39 47.5	3 44 50.0	.48801
21	15 5 45.56	15 31 18.9	.8595271	22 58.1	84 58 37.5	4 22 34.3	.48901
22	15 3 2.04	15 7 18.5	.8698072	22 52.2	91 15 32.7	4 56 54.8	.49096
23	15 1 2.04	14 48 24.1	.8810045	22 46.9	97 29 5.3	5 27 23.8	.49362
24	14 59 46.16	14 34 42.4	.8928547	22 42.4	103 37 52.8	5 53 41.0	.49712
25	14 59 13.57	14 26 7.8	.9051168	22 38.6	109 40 41.6	6 15 34.2	.50134
26	14 59 22.48	14 22 26.2	.9175788	22 35.4	115 36 27.0	6 32 59.0	.50619
27	15 0 10.32	14 23 16.6	.9300630	22 32.8	121 24 15.4	6 45 57.8	.51158
28	15 1 34.19	14 28 13.5	.9424249	22 30.8	127 3 25.0	6 54 39.0	.51743
29	15 3 30.95	14 36 50.2	.9545524	22 29.3	132 33 25.5	6 59 16.1	.52
30	15 5 57.48	14 48 39.0	.9663596	22 28.2	137 53 56.9	7 0 5.6	.51
31	15 8 50.75	S. 15 3 13.0	9.9777852	22 27.5	143 4 49.7	N. 6 57 26.5	9.1

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^{h m s} 15 54 42·26	+ 5·77	0·27	S. 23 14 59·2	— 9·2	3·7	9·7
15 56 48·35	4·72	0·27	23 17 27·3	— 3·1	3·7	9·9
15 58 27·89	3·56	0·28	23 17 25·4	+ 3·3	3·9	10·2
15 59 38·15	2·28	0·29	23 14 43·0	10·2	3·9	10·4
16 0 16·34	+ 0·89	0·30	23 9 8·0	17·7	4·0	10·7
16 0 19·80	— 0·62	0·30	23 0 28·4	25·7	4·1	10·9
15 59 46·10	2·22	0·31	22 48 31·8	34·1	4·2	11·2
15 58 33·34	3·86	0·31	22 33 7·0	43·0	4·3	11·5
15 56 40·42	5·55	0·32	22 14 4·5	52·2	4·4	11·7
15 54 7·20	7·21	0·32	21 51 18·5	61·6	4·5	11·9
15 50 54·90	8·79	0·33	21 24 49·0	70·8	4·6	12·2
15 47 6·41	10·22	0·34	20 54 44·1	79·5	4·7	12·4
15 42 46·42	11·40	0·34	20 21 22·1	87·2	4·7	12·5
^{ 19 28 1·46 } ^{ 15 28 59·07 } 15 27 50·56	^{ 12·23 } ^{ 12·79 } 12·89	^{ 0·34 } ^{ 0·34 } 0·34	^{ 19 45 15·3 } ^{ 19 7 1·2 } 18 27 41·8	^{ 92·3 } ^{ 97·3 } 98·8	^{ 4·6 } ^{ 4·8 } 4·8	^{ 12·6 } ^{ 12·7 } 12·7
15 22 44·19	12·57	0·34	17 48 19·0	97·6	4·8	12·6
15 17 50·61	11·83	0·33	17 10 1·3	93·4	4·7	12·5
15 13 19·13	10·73	0·32	16 33 56·7	86·5	4·6	12·3
15 9 17·74	9·34	0·32	16 1 6·5	77·3	4·6	12·1
15 5 52·68	7·72	0·31	15 32 20·2	66·3	4·5	11·9
15 3 8·19	5·97	0·31	15 8 14·2	54·1	4·4	11·6
15 1 6·69	4·15	0·30	14 49 10·6	41·2	4·3	11·3
14 59 48·95	2·33	0·29	14 35 16·6	28·3	4·2	11·0
14 59 14·25	— 0·57	0·28	14 26 27·8	15·8	4·0	10·7
14 59 20·90	+ 1·10	0·27	14 22 31·2	+ 4·0	3·9	10·4
15 0 6·48	2·67	0·27	14 23 6·5	— 6·8	3·8	10·1
15 1 28·13	4·11	0·26	14 27 48·8	16·6	3·7	9·8
15 3		0·25	14 36 12·2	25·2	3·6	9·5
15 5			14 47 49·1	32·7	3·5	9·3
15 8			15 2 12·7	39·1	3·4	9·1
15 11			8 57·7	— 44·5	3·3	8·8

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	15 8 50.75	S. 15 3 13.0	9.9777852	22 27.5	143 4 49.7	N. 6 57 26.5	9.536
2	15 12 7.91	15 20 6.7	.9887884	22 27.2	148 6 3.0	6 51 38.9	.543
3	15 15 46.40	15 38 56.9	9.9993427	22 27.2	152 57 42.7	6 43 3.2	.550
4	15 19 43.82	15 59 21.7	0.0094346	22 27.5	157 40 0.7	6 31 59.4	.557
5	15 23 58.07	16 21 1.7	.0190601	22 28.0	162 13 14.2	6 18 46.7	.564
6	15 28 27.26	16 43 39.7	.0282218	22 28.8	166 37 42.7	6 3 43.0	.571
7	15 33 9.79	17 7 0.0	.0369280	22 29.7	170 53 49.4	5 47 4.8	.578
8	15 38 4.17	17 30 49.2	.0451908	22 30.9	175 1 59.0	5 29 7.0	.585
9	15 43 9.16	17 54 54.9	.0530244	22 32.2	179 2 36.5	5 10 3.2	.592
10	15 48 23.67	18 19 6.7	.0604442	22 33.6	182 56 8.0	4 50 5.3	.599
11	15 53 46.73	18 43 14.9	.0674672	22 35.2	186 42 59.2	4 29 23.8	.606
12	15 59 17.54	19 7 11.6	.0741102	22 36.8	190 23 35.7	4 8 7.9	.603
13	16 4 55.36	19 30 49.3	.0803902	22 38.6	193 58 22.5	3 46 26.0	.610
14	16 10 39.59	19 54 1.7	.0863236	22 40.5	197 27 43.9	3 24 24.9	.617
15	16 16 29.66	20 16 42.8	.0919259	22 42.5	200 52 2.9	3 2 10.8	.624
16	16 22 25.13	20 38 47.8	.0972131	22 44.6	204 11 42.1	2 39 49.1	.631
17	16 28 25.58	21 0 12.0	.1021991	22 46.7	207 27 3.1	2 17 24.2	.638
18	16 34 30.66	21 20 51.4	.1068983	22 48.9	210 38 26.5	1 55 0.0	.635
19	16 40 40.05	21 40 42.4	.1113235	22 51.2	213 46 11.7	1 32 40.0	.642
20	16 46 53.48	21 59 41.6	.1154860	22 53.5	216 50 38.0	1 10 27.1	.649
21	16 53 10.70	22 17 46.1	.1193979	22 55.9	219 52 2.6	0 48 23.8	.646
22	16 59 31.49	22 34 53.0	.1230691	22 58.4	222 50 43.1	0 26 32.2	.653
23	17 5 55.67	22 51 0.0	.1265094	23 0.9	225 46 55.6	N. 0 4 54.5	.650
24	17 12 23.06	23 6 4.7	.1297278	23 3.5	228 40 56.2	S. 0 16 27.9	.657
25	17 18 53.49	23 20 5.0	.1327320	23 6.1	231 32 59.8	0 37 33.3	.654
26	17 25 26.82	23 32 58.6	.1355297	23 8.8	234 23 20.8	0 58 20.4	.661
27	17 32 2.94	23 44 43.9	.1381272	23 11.5	237 12 14.0	1 18 48.1	.668
28	17 38 41.67	23 55 19.0	.1405312	23 14.2	239 59 52.1	1 38 55.1	.665
29	17 45 22.93	24 4 42.4	.1427464	23 17.0	242 46 28.7	1 58 40.4	.662
30	17 52 6.58	24 12 52.1	.1447782	23 19.8	245 32 16.9	2 18 2.9	.669
31	17 58 52.53	24 19 46.9	.1466305	23 22.7	248 17 29.5	2 37 1.6	.666
32	18 5 40.64	S. 24 25 25.3	0.1483073	23 25.6	251 2 18.7	S. 2 55 35.4	9.663

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ′ ″</i>	<i>"</i>	<i>"</i>	<i>"</i>
5 11 54.57	+ 8.62	0.23	S. 15 18 57.7	-44.5	3.3	8.8
5 15 31.71	9.46	0.23	15 37 40.9	48.9	3.2	8.6
5 19 27.98	10.21	0.23	15 58 0.2	52.5	3.2	8.4
5 23 41.24	10.88	0.22	16 19 36.2	55.4	3.1	8.2
5 28 9.65	11.47	0.21	16 42 11.5	57.5	3.0	8.0
5 32 51.51	12.00	0.21	17 5 30.2	59.0	3.0	7.9
5 37 45.38	12.48	0.20	17 29 18.9	60.0	2.9	7.7
5 42 49.99	12.90	0.20	17 53 25.1	60.5	2.9	7.6
5 48 4.22	13.28	0.20	18 17 38.1	60.5	2.8	7.5
5 53 27.12	13.62	0.20	18 41 48.2	60.2	2.8	7.4
5 58 57.85	13.93	0.19	19 5 47.4	59.6	2.7	7.2
6 4 35.67	14.21	0.19	19 29 28.0	58.7	2.7	7.1
6 10 19.97	14.47	0.19	19 52 43.7	57.6	2.7	7.1
6 16 10.19	14.71	0.19	20 15 28.6	56.2	2.6	7.0
6 22 5.86	14.93	0.19	20 37 37.5	54.6	2.6	6.9
6 28 6.57	15.13	0.19	20 59 5.7	52.8	2.6	6.8
6 34 11.97	15.32	0.18	21 19 49.4	50.8	2.5	6.7
6 40 21.71	15.49	0.18	21 39 44.8	48.8	2.5	6.6
6 46 35.54	15.66	0.18	21 58 48.4	46.5	2.5	6.6
6 52 53.21	15.81	0.18	22 16 57.2	44.2	2.5	6.5
6 59 14.48	15.96	0.18	22 34 8.5	41.7	2.5	6.5
7 5 39.17	16.10	0.18	22 50 19.8	39.2	2.4	6.4
7 12 7.11	16.23	0.18	23 5 28.9	36.5	2.4	6.4
7 18 38.11	16.35	0.18	23 19 33.3	33.8	2.4	6.3
7 25 12.05	16.47	0.18	23 32 30.8	31.0	2.4	6.3
7 31 48.79	16.59	0.18	23 44 20.0	28.1	2.4	6.3
7 38 28.18	16.70	0.17	23 54 58.8	25.1	2.3	6.2
7 45 10.13	16.80	0.17	24 4 25.6	22.1	2.3	6.2
7 51 54.50	16.90	0.17	24 12 38.5	19.0	2.3	6.2
7 58 41.18	16.99	0.17	24 19 36.3	15.8	2.3	6.1
8 5 30.04	17.08	0.17	24 25 17.5	12.6	2.3	6.1
8 12 20.98	+17.16	0.17	S. 24 29 40.5	-9.3	2.3	6.1

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	21 31 48.24	S. 16 33 5.7	0.0578194	2 48.0	18 33 22.0	S. 2 50 5.6	9.860
2	21 36 31.71	16 8 34.2	.0554178	2 48.8	20 9 7.4	2 46 55.0	.860
3	21 41 13.63	15 43 38.1	.0529927	2 49.5	21 44 54.3	2 43 36.5	.860
4	21 45 54.02	15 18 18.1	.0505439	2 50.3	23 20 42.8	2 40 10.3	.860
5	21 50 32.89	14 52 35.2	.0480713	2 51.0	24 56 32.9	2 36 36.7	.860
6	21 55 10.25	14 26 30.0	.0455747	2 51.7	26 32 24.6	2 32 55.6	.85
7	21 59 46.11	14 0 3.4	.0430537	2 52.3	28 8 17.7	2 29 7.3	.85
8	22 4 20.51	13 33 16.2	.0405082	2 53.0	29 44 12.5	2 25 12.0	.85
9	22 8 53.45	13 6 9.1	.0379378	2 53.6	31 20 8.8	2 21 9.8	.85
10	22 13 24.96	12 38 43.0	.0353424	2 54.1	32 56 6.8	2 17 0.9	.85
11	22 17 55.05	12 10 58.5	.0327216	2 54.7	34 32 6.4	2 12 45.6	.85
12	22 22 23.75	11 42 56.5	.0300751	2 55.2	36 8 7.6	2 8 23.9	.85
13	22 26 51.09	11 14 37.7	.0274027	2 55.7	37 44 10.5	2 3 56.1	.85
14	22 31 17.09	10 46 2.9	.0247039	2 56.2	39 20 15.0	1 59 22.4	.85
15	22 35 41.78	10 17 12.9	.0219782	2 56.7	40 56 21.1	1 54 43.1	.85
16	22 40 5.17	9 48 8.4	.0192251	2 57.2	42 32 28.9	1 49 58.2	.85
17	22 44 27.31	9 18 50.1	.0164442	2 57.6	44 8 38.5	1 45 8.1	.85
18	22 48 48.21	8 49 18.9	.0136349	2 58.0	45 44 49.7	1 40 12.9	.85
19	22 53 7.90	8 19 35.6	.0107968	2 58.3	47 21 2.6	1 35 12.9	.85
20	22 57 26.40	7 49 40.8	.0079294	2 58.7	48 57 17.2	1 30 8.4	.85
21	23 1 43.74	7 19 35.5	.0050322	2 59.0	50 33 33.5	1 24 59.5	.85
22	23 5 59.94	6 49 20.3	0.0021047	2 59.4	52 9 51.5	1 19 46.4	.85
23	23 10 15.03	6 18 55.9	9.9991463	2 59.7	53 46 11.2	1 14 29.5	.85
24	23 14 29.02	5 48 23.3	.9961565	3 0.0	55 22 32.7	1 9 9.0	.85
25	23 18 41.94	5 17 43.0	.9931347	3 0.3	56 58 55.9	1 3 45.1	.85
26	23 22 53.82	4 46 56.0	.9900805	3 0.5	58 35 20.8	0 58 18.1	.85
27	23 27 4.67	4 16 2.9	.9869936	3 0.8	60 11 47.5	0 52 48.2	.85
28	23 31 14.52	3 45 4.5	.9838733	3 1.0	61 48 16.0	0 47 15.6	.85
29	23 35 23.39	3 14 1.7	.9807194	3 1.2	63 24 46.2	0 41 40.8	.85
30	23 39 31.29	2 42 55.2	.9775313	3 1.4	65 1 18.3	0 36 3.8	.85
31	23 43 38.26	2 11 45.7	.9743087	3 1.5	66 37 52.1	0 30 25.0	.85
32	23 47 44.30	S. 1 40 33.9	9.9710511	3 1.7	68 14 27.7	S. 0 24 44.7	9.85

JANUARY, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	21 32 21.40	+11.85	0.50	S. 16 30 15.2	+61.0	7.2	7.5
2	21 37 4.84	11.78	0.51	16 5 40.0	62.0	7.2	7.5
3	21 41 46.73	11.71	0.51	15 40 40.4	63.0	7.3	7.6
4	21 46 27.08	11.65	0.51	15 15 16.8	64.0	7.3	7.6
5	21 51 5.90	11.59	0.51	14 49 30.5	64.9	7.4	7.7
6	21 55 43.21	11.52	0.52	14 23 21.9	65.8	7.4	7.7
7	22 0 19.02	11.46	0.52	13 56 52.2	66.7	7.5	7.8
8	22 4 53.37	11.40	0.52	13 30 1.8	67.5	7.5	7.8
9	22 9 26.25	11.34	0.52	13 2 51.7	68.3	7.6	7.9
10	22 13 57.69	11.28	0.53	12 35 22.7	69.1	7.6	7.9
11	22 18 27.72	11.22	0.53	12 7 35.5	69.8	7.7	8.0
12	22 22 56.35	11.16	0.53	11 39 30.7	70.5	7.7	8.0
13	22 27 23.62	11.11	0.53	11 11 9.3	71.2	7.8	8.1
14	22 31 49.55	11.05	0.54	10 42 32.0	71.9	7.8	8.1
15	22 36 14.17	11.00	0.54	10 13 39.6	72.5	7.9	8.2
16	22 40 37.49	10.95	0.54	9 44 32.8	73.1	7.9	8.2
17	22 44 59.55	10.89	0.54	9 15 12.3	73.6	8.0	8.3
18	22 49 20.37	10.84	0.55	8 45 39.1	74.1	8.0	8.3
19	22 53 39.98	10.79	0.55	8 15 53.9	74.6	8.1	8.4
20	22 57 58.40	10.74	0.55	7 45 57.3	75.1	8.1	8.4
21	23 2 15.66	10.70	0.56	7 15 50.3	75.5	8.2	8.5
22	23 6 31.78	10.65	0.56	6 45 33.5	75.9	8.2	8.5
23	23 10 46.79	10.60	0.56	6 15 7.6	76.3	8.3	8.6
24	23 15 0.69	10.56	0.56	5 44 33.7	76.6	8.3	8.6
25	23 19 13.52	10.51	0.57	5 13 52.1	76.9	8.4	8.7
26	23 23 25.32	10.47	0.57	4 43 4.0	77.1	8.5	8.8
27	23 27 36.08	10.43	0.57	4 12 9.9	77.4	8.5	8.8
28	23 31 45.84	10.39	0.58	3 41 10.6	77.6	8.6	8.9
29	23 35 54.62	10.35	0.58	3 10 7.0	77.8	8.7	9.0
30	23 40 2.44	10.31	0.58	2 38 59.9	77.9	8.8	9.1
31	23 44 9.32	10.27	0.59	2 7 49.8	78.0	8.8	9.1
32	23 48 15.28	+10.23	"	S. 1 36 37.6	+78.0	8.9	9.2

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	23 47 44.30	S. 1 40 33.9	9.9710511	3 1.7	68 14 27.7	S. 0 24 44.7	9.857
2	23 51 49.45	1 9 20.6	9.9677580	3 1.8	69 51 5.1	0 19 3.1	9.857
3	23 55 53.72	0 38 6.5	9.9644290	3 2.0	71 27 44.3	0 13 20.4	9.857
4	23 59 57.12	S. 0 6 52.3	9.9610640	3 2.1	73 4 25.4	0 7 37.0	9.857
5	0 3 59.70	N. 0 24 21.3	9.9576624	3 2.2	74 41 8.2	S. 0 1 53.2	9.857
6	0 8 1.46	0 55 33.7	9.9542240	3 2.3	76 17 52.9	N. 0 3 50.9	9.857
7	0 12 2.42	1 26 44.1	9.9507482	3 2.3	77 54 39.3	0 9 34.8	9.857
8	0 16 2.61	1 57 52.0	9.9472346	3 2.4	79 31 27.5	0 15 18.4	9.857
9	0 20 2.03	2 28 56.6	9.9436826	3 2.4	81 8 17.5	0 21 1.4	9.857
10	0 24 0.72	2 59 57.3	9.9400917	3 2.4	82 45 9.2	0 26 43.5	9.857
11	0 27 58.70	3 30 53.4	9.9364614	3 2.5	84 22 2.7	0 32 24.3	9.857
12	0 31 55.96	4 1 44.2	9.9327910	3 2.5	85 58 58.0	0 38 3.8	9.857
13	0 35 52.53	4 32 29.2	9.9290799	3 2.5	87 35 55.0	0 43 41.6	9.857
14	0 39 48.43	5 3 7.6	9.9253275	3 2.5	89 12 53.7	0 49 17.3	9.857
15	0 43 43.66	5 33 38.9	9.9215329	3 2.5	90 49 54.1	0 54 50.7	9.857
16	0 47 38.23	6 4 2.3	9.9176955	3 2.4	92 26 56.1	1 0 21.6	9.856
17	0 51 32.14	6 34 17.3	9.9138144	3 2.4	94 3 59.8	1 5 49.7	9.856
18	0 55 25.41	7 4 23.1	9.9098888	3 2.3	95 41 5.2	1 11 14.7	9.856
19	0 59 18.03	7 34 19.2	9.9059179	3 2.3	97 18 12.1	1 16 36.4	9.85
20	1 3 9.99	8 4 4.8	9.9019010	3 2.2	98 55 20.5	1 21 54.5	9.85
21	1 7 1.30	8 33 39.2	9.8978371	3 2.1	100 32 30.6	1 27 8.7	9.85
22	1 10 51.94	9 3 1.8	9.8937255	3 2.0	102 9 42.1	1 32 18.9	9.85
23	1 14 41.91	9 32 11.9	9.8895655	3 1.9	103 46 55.1	1 37 24.6	9.85
24	1 18 31.18	10 1 8.9	9.8853562	3 1.7	105 24 9.6	1 42 25.7	9.85
25	1 22 19.74	10 29 52.1	9.8810968	3 1.6	107 1 25.4	1 47 21.9	9.85
26	1 26 7.56	10 58 20.8	9.8767866	3 1.4	108 38 42.7	1 52 13.1	9.85
27	1 29 54.62	11 26 34.5	9.8724250	3 1.3	110 16 1.3	1 56 58.9	9.85
28	1 33 40.89	11 54 32.3	9.8680112	3 1.1	111 53 21.1	2 1 39.0	9.85
29	1 37 26.35	N. 12 22 13.8	9.8635447	3 0.9	113 30 42.1	N. 2 6 13.4	9.85

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	23 48 15.28	+10.23	0.59	S. 1 36 37.6	+78.0	8.9	9.2
2	23 52 20.34	10.19	0.59	1 5 23.9	78.1	8.9	9.3
3	23 56 24.53	10.16	0.60	0 34 9.6	78.1	8.9	9.3
4	0 0 27.84	10.12	0.60	S. 0 2 55.3	78.1	9.0	9.4
5	0 4 30.33	10.09	0.61	N. 0 28 18.3	78.0	9.1	9.5
6	0 8 32.00	10.05	0.61	0 59 30.6	78.0	9.1	9.5
7	0 12 32.87	10.02	0.62	1 30 40.7	77.9	9.2	9.6
8	0 16 32.98	9.99	0.62	2 1 48.3	77.8	9.3	9.7
9	0 20 32.31	9.96	0.62	2 32 52.5	77.6	9.4	9.8
10	0 24 30.91	9.93	0.63	3 3 52.8	77.4	9.4	9.8
11	0 28 28.81	9.90	0.63	3 34 48.2	77.2	9.5	9.9
12	0 32 25.98	9.87	0.64	4 5 38.4	77.0	9.6	10.0
13	0 36 22.47	9.84	0.64	4 36 22.6	76.7	9.7	10.1
14	0 40 18.28	9.81	0.65	5 7 0.0	76.4	9.8	10.2
15	0 44 13.42	9.78	0.66	5 37 30.4	76.1	9.9	10.3
16	0 48 7.90	9.76	0.67	6 7 52.6	75.8	10.0	10.4
17	0 52 1.72	9.73	0.67	6 38 6.5	75.4	10.1	10.5
18	0 55 54.90	9.70	0.69	7 8 11.0	75.0	10.2	10.6
19	0 59 47.42	9.67	0.70	7 38 5.8	74.6	10.3	10.7
20	1 3 39.29	9.65	0.71	8 7 49.9	74.1	10.4	10.8
21	1 7 30.50	9.62	0.71	8 37 22.8	73.6	10.5	10.9
22	1 11 21.03	9.59	0.72	9 6 43.7	73.1	10.6	11.0
23	1 15 10.90	9.56	0.72	9 35 52.0	72.6	10.7	11.1
24	1 19 0.06	9.53	0.73	10 4 47.1	72.0	10.8	11.2
25	1 22 48.51	9.50	0.73	10 33 28.4	71.4	10.9	11.3
26	1 26 36.21	9.47	0.74	11 1 55.0	70.8	11.0	11.4
27	1 30 23.14	9.44	0.75	11 30 6.6	70.2	11.1	11.5
28	1 34 9.29	9.41	0.75	11 58 2.2	69.5	11.2	11.6
29	1 37 54.62	+9.37	0.76	N.12 25 41.4	+68.8	11.3	11.7

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vel.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1	^{h m s} 1 37 26.35	^{° ' "} N.12 22 13.8	9.8635447	^{h m} 3 0.9	^{° ' "} 113 30 42.1	^{° ' "} N.2 6 13.4	9.85648
2	1 41 10.96	12 49 38.2	.8590247	3 0.7	115 8 4.4	2 10 41.7	.85645
3	1 44 54.69	13 16 45.0	.8544507	3 0.5	116 45 27.7	2 15 3.7	.85644
4	1 48 37.50	13 43 33.5	.8498222	3 0.3	118 22 52.1	2 19 19.3	.85642
5	1 52 19.33	14 10 3.2	.8451386	3 0.1	120 0 17.5	2 23 28.2	.85640
6	1 56 0.14	14 36 13.5	.8403993	2 59.8	121 37 43.8	2 27 30.3	.85639
7	1 59 39.90	15 2 3.8	.8356039	2 59.5	123 15 10.9	2 31 25.2	.85638
8	2 3 18.55	15 27 33.6	.8307518	2 59.2	124 52 38.9	2 35 12.8	.85638
9	2 6 56.05	15 52 42.4	.8258423	2 58.9	126 30 7.6	2 38 53.0	.85637
10	2 10 32.33	16 17 29.6	.8208750	2 58.5	128 7 37.0	2 42 25.5	.85637
11	2 14 7.34	16 41 54.7	.8158493	2 58.1	129 45 7.0	2 45 50.2	.85637
12	2 17 41.01	17 5 57.1	.8107644	2 57.8	131 22 37.5	2 49 6.8	.85637
13	2 21 13.27	17 29 36.4	.8056197	2 57.4	133 0 8.4	2 52 15.4	.85637
14	2 24 44.04	17 52 52.0	.8004146	2 57.0	134 37 39.8	2 55 15.7	.85638
15	2 28 13.24	18 15 43.5	.7951483	2 56.5	136 15 11.4	2 58 7.5	.85639
16	2 31 40.78	18 38 10.3	.7898202	2 56.0	137 52 43.2	3 0 50.6	.85640
17	2 35 6.58	19 0 12.0	.7844297	2 55.5	139 30 15.2	3 3 25.1	.85641
18	2 38 30.53	19 21 48.0	.7789761	2 54.9	141 7 47.2	3 5 50.7	.85643
19	2 41 52.54	19 42 57.9	.7734587	2 54.3	142 45 19.2	3 8 7.4	.85645
20	2 45 12.47	20 3 41.1	.7678769	2 53.7	144 22 51.1	3 10 15.0	.85647
21	2 48 30.20	20 23 57.1	.7622300	2 53.1	146 0 22.8	3 12 13.4	.85649
22	2 51 45.62	20 43 45.4	.7565175	2 52.4	147 37 54.2	3 14 2.5	.85652
23	2 54 58.57	21 3 5.6	.7507390	2 51.6	149 15 25.3	3 15 42.2	.85654
24	2 58 8.90	21 21 57.0	.7448943	2 50.9	150 52 55.9	3 17 12.5	.85657
25	3 1 16.46	21 40 19.3	.7389830	2 50.1	152 30 25.9	3 18 33.3	.85661
26	3 4 21.08	21 58 11.9	.7330053	2 49.2	154 7 55.3	3 19 44.5	.85664
27	3 7 22.57	22 15 34.2	.7269610	2 48.2	155 45 24.0	3 20 46.2	.85668
28	3 10 20.77	22 32 25.9	.7208507	2 47.3	157 22 51.9	3 21 38.1	.85671
29	3 13 15.47	22 48 46.2	.7146747	2 46.3	159 0 18.9	3 22 20.4	.85675
30	3 16 6.49	23 4 34.7	.7084336	2 45.2	160 37 44.9	3 22 52.8	.85680
31	3 18 53.61	23 19 50.9	.7021286	2 44.0	162 15 9.9	3 23 15.5	.85684
32	3 21 36.61	N.23 34 34.2	9.6957609	2 42.8	163 52 33.6	N.3 23 28.5	9.85688

MARCH, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	1 37 54.62	+ 9.37	0.76	N. 12 25 41.4	+ 68.8	11.3	11.7
2	1 41 39.09	9.33	0.77	12 53 3.3	68.1	11.4	11.8
3	1 45 22.67	9.30	0.78	13 20 7.7	67.3	11.5	12.0
4	1 49 5.33	9.26	0.80	13 46 53.6	66.5	11.6	12.1
5	1 52 47.00	9.21	0.81	14 13 20.6	65.7	11.7	12.2
6	1 56 27.64	9.17	0.82	14 39 28.2	64.9	11.8	12.3
7	2 0 7.22	9.13	0.83	15 5 15.7	64.0	12.0	12.5
8	2 3 45.69	9.08	0.84	15 30 42.5	63.2	12.1	12.6
9	2 7 22.99	9.03	0.86	15 55 48.4	62.3	12.3	12.8
10	2 10 59.06	8.98	0.87	16 20 32.5	61.4	12.5	13.0
11	2 14 33.85	8.92	0.88	16 44 54.5	60.4	12.6	13.1
12	2 18 7.30	8.86	0.89	17 8 53.6	59.5	12.8	13.3
13	2 21 39.32	8.80	0.90	17 32 29.6	58.5	12.9	13.4
14	2 25 9.84	8.74	0.92	17 55 41.8	57.5	13.1	13.6
15	2 28 38.77	8.67	0.93	18 18 29.8	56.5	13.2	13.7
16	2 32 6.03	8.60	0.94	18 40 53.2	55.5	13.4	13.9
17	2 35 31.54	8.52	0.95	19 2 51.3	54.4	13.6	14.1
18	2 38 55.18	8.44	0.97	19 24 23.7	53.3	13.8	14.3
19	2 42 16.86	8.36	0.99	19 45 29.8	52.2	14.0	14.5
20	2 45 36.45	8.27	1.00	20 6 9.3	51.1	14.0	14.6
21	2 48 53.82	8.18	1.01	20 26 21.5	49.9	14.2	14.8
22	2 52 8.86	8.08	1.03	20 46 5.9	48.8	14.4	15.0
23	2 55 21.41	7.97	1.04	21 5 22.0	47.6	14.6	15.2
24	2 58 31.32	7.85	1.06	21 24 9.4	46.4	14.8	15.4
25	3 1 38.44	7.73	1.07	21 42 27.6	45.1	15.0	15.6
26	3 4 42.59	7.60	1.09	22 0 16.0	43.9	15.2	15.8
27	3 7 43.58	7.47	1.11	22 17 34.0	42.6	15.5	16.1
28	3 10 41.26	7.33	1.13	22 34 21.4	41.3	15.7	16.3
29	3 13 35.42	7.18	1.15	22 50 37.3	40.0	15.9	16.5
30	3 16 25.87	7.02	1.17	23 6 21.4	38.7	16.1	16.7
31	3 19 12.40	6.85	1.18	23 21 33.2	37.3	16.4	17.0
32	3 21 54.79	+ 6.68	1.20	N. 23 36 12.0	+ 35.9	16.6	17.2

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	3 21 36.61	N. 23 34 34.2	9.6957609	2 42.8	163 52 33.6	N. 3 23 28.5	9.856
2	3 24 15.27	23 48 44.2	9.6893320	2 41.5	165 29 56.1	3 23 31.7	9.856
3	3 26 49.36	24 2 20.3	9.6828438	2 40.1	167 7 17.3	3 23 25.1	9.856
4	3 29 18.64	24 15 21.8	9.6762982	2 38.6	168 44 37.1	3 23 8.8	9.857
5	3 31 42.88	24 27 48.3	9.6696975	2 37.0	170 21 55.4	3 22 42.7	9.857
6	3 34 1.82	24 39 39.1	9.6630443	2 35.4	171 59 12.1	3 22 7.0	9.857
7	3 36 15.22	24 50 53.7	9.6563423	2 33.7	173 36 27.1	3 21 21.5	9.857
8	3 38 22.81	25 1 31.0	9.6495927	2 31.9	175 13 40.5	3 20 26.5	9.857
9	3 40 24.35	25 11 30.6	9.6428012	2 30.0	176 50 52.0	3 19 21.7	9.857
10	3 42 19.56	25 20 51.7	9.6359720	2 27.9	178 28 1.7	3 18 7.6	9.857
11	3 44 8.18	25 29 33.6	9.6291093	2 25.8	180 5 9.4	3 16 43.9	9.857
12	3 45 49.93	25 37 35.4	9.6222181	2 23.5	181 42 15.1	3 15 10.9	9.857
13	3 47 24.53	25 44 56.0	9.6153040	2 21.2	183 19 18.7	3 13 28.7	9.857
14	3 48 51.69	25 51 34.4	9.6083731	2 18.7	184 56 20.2	3 11 37.2	9.857
15	3 50 11.13	25 57 29.5	9.6014322	2 16.1	186 33 19.6	3 9 36.6	9.857
16	3 51 22.59	26 2 40.3	9.5944891	2 13.3	188 10 16.7	3 7 27.0	9.857
17	3 52 25.80	26 7 5.5	9.5875523	2 10.4	189 47 11.5	3 5 8.5	9.857
18	3 53 20.47	26 10 43.7	9.5806307	2 7.4	191 24 3.9	3 2 41.3	9.857
19	3 54 6.35	26 13 33.5	9.5737343	2 4.2	193 0 53.8	3 0 5.4	9.858
20	3 54 43.17	26 15 33.3	9.5668740	2 0.8	194 37 41.4	2 57 21.1	9.858
21	3 55 10.70	26 16 41.7	9.5600620	1 57.3	196 14 26.4	2 54 28.4	9.858
22	3 55 28.71	26 16 56.8	9.5533116	1 53.7	197 51 8.8	2 51 27.5	9.858
23	3 55 37.03	26 16 16.9	9.5466375	1 49.9	199 27 48.8	2 48 18.5	9.858
24	3 55 35.47	26 14 40.4	9.5400546	1 46.0	201 4 26.1	2 45 1.6	9.858
25	3 55 23.90	26 12 5.4	9.5335791	1 41.8	202 41 0.7	2 41 37.1	9.858
26	3 55 2.22	26 8 30.3	9.5272293	1 37.5	204 17 32.7	2 38 4.9	9.858
27	3 54 30.42	26 3 53.2	9.5210247	1 33.0	205 54 2.0	2 34 25.3	9.858
28	3 53 48.50	25 58 12.5	9.5149851	1 28.4	207 30 28.6	2 30	
29	3 52 56.53	25 51 26.6	9.5091316	1 23.6	209 6 52.4	2 2	
30	3 51 54.65	25 43 34.2	9.5034862	1 18.6	210 43 13.5	2 2	
31	3 50 43.08	N. 25 34 34.2	9.4980717	1 13.5	212 19 31.9	N. 2 11	

APRIL, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	3 21 54.79	+ 6.68	1.20	N.23 36 12.0	+35.9	16.6	17.2
2	3 24 32.80	6.49	1.22	23 50 17.5	34.5	16.8	17.5
3	3 27 6.22	6.29	1.25	24 3 49.0	33.1	17.1	17.8
4	3 29 34.79	6.08	1.27	24 16 45.8	31.7	17.4	18.1
5	3 31 58.31	5.87	1.29	24 29 7.7	30.2	17.7	18.4
6	3 34 16.50	5.64	1.31	24 40 53.7	28.7	18.0	18.7
7	3 36 29.13	5.40	1.34	24 52 3.5	27.1	18.3	19.0
8	3 38 35.93	5.15	1.36	25 2 36.0	25.6	18.5	19.2
9	3 40 36.65	4.90	1.38	25 12 30.8	24.0	18.8	19.5
10	3 42 31.03	4.63	1.41	25 21 47.1	22.4	19.1	19.8
11	3 44 18.80	4.35	1.43	25 30 24.2	20.7	19.3	20.1
12	3 45 59.69	4.06	1.46	25 38 21.1	19.0	19.7	20.5
13	3 47 33.41	3.75	1.48	25 45 36.9	17.3	20.0	20.8
14	3 48 59.68	3.43	1.51	25 52 10.4	15.5	20.3	21.1
15	3 50 18.23	3.11	1.53	25 58 0.7	13.7	20.7	21.5
16	3 51 28.80	2.77	1.55	26 3 6.8	11.8	21.0	21.8
17	3 52 31.11	2.42	1.58	26 7 27.2	9.9	21.3	22.1
18	3 53 24.89	2.06	1.60	26 11 0.7	7.9	21.6	22.5
19	3 54 9.89	1.69	1.63	26 13 45.8	5.8	21.9	22.8
20	3 54 45.85	1.31	1.66	26 15 41.0	3.7	22.3	23.2
21	3 55 12.54	0.91	1.69	26 16 45.0	+ 1.6	22.7	23.6
22	3 55 29.72	0.51	1.72	26 16 55.7	- 0.7	23.1	24.0
23	3 55 37.26	+ 0.11	1.74	26 16 11.6	3.0	23.4	24.3
24	3 55 34.96	- 0.30	1.76	26 14 31.0	5.4	23.8	24.7
25	3 55 22.71	0.72	1.79	26 11 52.2	7.9	24.1	25.1
26	3 55 0.40	1.14	1.82	26 8 13.5	10.4	24.5	25.5
27	3 54 28.02	1.56	1.85	26 3 33.1	13.0	24.9	25.9
		1.98	1.87	25 57 49.4	15.7	25.2	26.2
		2.29	1.89	25 51 0.9	18.4	25.6	26.6
			1.91	25 43 6.4	21.2	25.9	26.9
			93	N.25 34 4.8	-24.0	26.2	27.2

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	3 50 43.08	N.25 34 34.2	9.4980717	1 13.5	212 19 31.9	N.2 18 37.0	9.8585
2	3 49 22.09	25 24 25.7	.4929115	1 8.2	213 55 47.5	2 14 23.4	.8590
3	3 47 52.06	25 13 8.1	.4880289	1 2.8	215 32 0.4	2 10 3.5	.8591
4	3 46 13.46	25 0 41.5	.4834478	0 57.2	217 8 10.5	2 5 37.6	.8594
5	3 44 26.83	24 47 6.4	.4791915	0 51.5	218 44 17.9	2 1 6.0	.8594
6	3 42 32.79	24 32 23.7	.4752829	0 45.7	220 20 22.5	1 56 28.7	.8593
7	3 40 32.03	24 16 35.2	.4717434	0 39.8	221 56 24.4	1 51 46.2	.859
8	3 38 25.31	23 59 43.0	.4685933	0 33.7	223 32 23.6	1 46 58.5	.859
9	3 36 13.48	23 41 50.0	.4658511	0 27.6	225 8 20.2	1 42 5.9	.859
10	3 33 57.40	23 22 59.6	.4635340	0 21.4	226 44 14.1	1 37 8.8	.859
11	3 31 38.00	23 3 16.1	.4616571	0 15.2	228 20 5.4	1 32 7.1	.859
12	3 29 16.27	22 42 44.5	.4602312	0 8.9	229 55 54.1	1 27 1.3	.859
13	3 26 53.22	22 21 30.8	.4592664	$\left\{ \begin{smallmatrix} 0 \\ 23 \end{smallmatrix} \right\}$	231 31 40.1	1 21 51.5	.859
14	3 24 29.83	21 59 40.7	.4587684	23 50.0	233 7 23.6	1 16 38.2	.860
15	3 22 7.08	21 37 20.5	.4587399	23 43.7	234 43 4.5	1 11 21.2	.860
16	3 19 45.93	21 14 37.3	.4591815	23 37.5	236 18 43.0	1 6 1.1	.860
17	3 17 27.30	20 51 38.4	.4600904	23 31.3	237 54 19.0	1 0 38.1	.860
18	3 15 12.07	20 28 31.2	.4614602	23 25.2	239 29 52.7	0 55 12.3	.860
19	3 13 1.07	20 5 23.0	.4632816	23 19.2	241 5 24.1	0 49 44.2	.860
20	3 10 55.10	19 42 21.3	.4655433	23 13.3	242 40 53.2	0 44 13.8	.860
21	3 8 54.91	19 19 33.1	.4682316	23 7.5	244 16 20.0	0 38 41.5	.860
22	3 7 1.14	18 57 5.5	.4713306	23 1.8	245 51 44.6	0 33 7.5	.860
23	3 5 14.33	18 35 5.3	.4748222	22 56.2	247 27 7.1	0 27 32.1	.860
24	3 3 35.00	18 13 38.5	.4786876	22 50.7	249 2 27.5	0 21 55.6	.860
25	3 2 3.61	17 52 50.4	.4829064	22 45.4	250 37 45.9	0 16 18.2	.860
26	3 0 40.50	17 32 46.6	.4874571	22 40.3	252 13 2.4	0 10 40.1	.860
27	2 59 25.96	17 13 31.5	.4923171	22 35.2	253 48 17.0	N.0 5 1.7	.861
28	2 58 20.24	16 55 9.3	.4974646	22 30.3	255 23 29.8	S.0 0 36.9	.861
29	2 57 23.53	16 37 43.2	.5028764	22 25.6	256 58 40.8	0 6 15.3	.861
30	2 56 35.94	16 21 16.1	.5085305	22 21.0	258 33 50.1	0 11 53.4	.861
31	2 55 57.52	16 5 50.3	.5144047	22 16.6	260 8 57.8	0 17 30.8	.861
32	2 55 28.31	N.15 51 27.6	9.5204772	22 12.3	261 44 4.0	S.0 23 7.3	9.86

MAY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	3 50 39.17	— 3.19	1.93	N. 25 34 4.8	— 24.0	26.2	27.2
2	3 49 18.03	3.57	1.95	25 23 55.2	26.8	26.5	27.5
3	3 47 47.94	3.93	1.97	25 12 37.0	29.7	26.7	27.8
4	3 46 9.37	4.27	1.99	25 0 10.5	32.5	27.1	28.2
5	3 44 22.87	4.59	2.00	24 46 36.0	35.3	27.4	28.5
6	3 42 29.05	4.88	2.02	24 31 54.5	38.1	27.7	28.8
7	3 40 28.60	5.14	2.03	24 16 8.0	40.8	27.9	29.0
8	3 38 22.28	5.37	2.04	23 59 18.5	43.3	28.1	29.2
9	3 36 10.91	5.56	2.05	23 41 28.8	45.8	28.3	29.4
10	3 33 55.35	5.72	2.05	23 22 42.3	48.0	28.4	29.5
11	3 31 36.51	5.83	2.06	23 3 33.3	50.1	28.5	29.6
12	3 29 15.39	5.91	2.06	22 42 36.9	52.0	28.6	29.7
13	{ 3 26 32.07 }	{ 5.94 }	{ 2.06 }	{ 22 21 20.5 }	{ 53.6 }	{ 28.7 }	{ 29.8 }
14	{ 3 24 10.20 }	{ 5.94 }	{ 2.06 }	{ 21 59 44.1 }	{ 55.0 }	{ 28.7 }	{ 29.8 }
15	3 22 8.07	5.89	2.06	21 37 29.8	56.1	28.7	29.8
16	3 19 47.52	5.80	2.06	21 14 52.8	56.9	28.7	29.8
17	3 17 29.45	5.68	2.05	20 52 0.0	57.4	28.7	29.8
18	3 15 14.73	5.53	2.04	20 28 58.8	57.6	28.6	29.7
19	3 13 4.19	5.34	2.02	20 5 56.5	57.5	28.5	29.6
20	3 10 58.61	5.11	2.01	19 43 0.5	57.1	28.4	29.5
21	3 8 58.73	4.86	2.00	19 20 17.3	56.4	28.3	29.4
22	3 7 5.19	4.59	1.99	18 57 54.3	55.4	28.1	29.2
23	3 5 18.53	4.29	1.97	18 35 58.2	54.2	27.9	29.0
24	3 3 39.26	3.97	1.95	18 14 34.9	52.7	27.7	28.8
25	3 2 7.85	3.64	1.93	17 53 49.6	51.0	27.4	28.5
26	3 0 44.62	3.29	1.90	17 33 47.9	49.1	27.1	28.2
27	2 59 29.88	2.93	1.88	17 14 34.2	47.0	26.8	27.9
28	2 58 23.87	2.57	1.85	16 56 12.8	44.7	26.5	27.6
29	2 57 26.80	2.19	1.83	16 38 46.8	42.4	26.3	27.3
30	2 56 38.78	1.81	1.80	16 22 19.0	39.9	26.0	27.0
31	2 55 59.86	1.43	1.78	16 6 51.9	37.3	25.7	26.7
32	2 55 30.10			15 52 27.4	34.7	25.3	26.3
33	2 55 9.47				— 32.0	24.9	25.9

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ^{''}		^h ^m	[°] ['] ^{''}	[°] ['] ^{''}	
1	2 55 28.31	N. 15 51 27.6	9.5204772	22 12.3	261 44 4.0	S. 0 23 7.3	9.8613
2	2 55 8.28	15 38 9.2	.5267270	22 8.2	263 19 8.7	0 28 42.7	.8613
3	2 54 57.39	15 25 55.7	.5331339	22 4.2	264 54 12.1	0 34 16.6	.8614
4	2 54 55.54	15 14 47.4	.5396785	22 0.4	266 29 14.1	0 39 49.0	.8614
5	2 55 2.60	15 4 44.3	.5463420	21 56.7	268 4 14.9	0 45 19.4	.8615
6	2 55 18.46	14 55 46.1	.5531068	21 53.2	269 39 14.4	0 50 47.6	.8616
7	2 55 42.89	14 47 51.5	.5599563	21 49.8	271 14 12.9	0 56 13.4	.8616
8	2 56 15.73	14 40 59.8	.5668752	21 46.5	272 49 10.2	1 1 36.5	.8617
9	2 56 56.79	14 35 9.4	.5738493	21 43.4	274 24 6.7	1 6 56.8	.8617
10	2 57 45.86	14 30 18.8	.5808653	21 40.4	275 59 2.2	1 12 14.0	.8618
11	2 58 42.71	14 26 26.5	.5879110	21 37.5	277 33 56.9	1 17 27.7	.8618
12	2 59 47.11	14 23 30.3	.5949748	21 34.7	279 8 50.8	1 22 37.9	.8618
13	3 0 58.82	14 21 28.3	.6020470	21 32.1	280 43 44.1	1 27 44.3	.8619
14	3 2 17.63	14 20 18.5	.6091184	21 29.6	282 18 36.7	1 32 46.5	.8619
15	3 3 43.30	14 19 58.8	.6161806	21 27.2	283 53 28.8	1 37 44.5	.8620
16	3 5 15.60	14 20 27.0	.6232262	21 24.9	285 28 20.4	1 42 37.9	.8620
17	3 6 54.30	14 21 40.9	.6302486	21 22.7	287 3 11.7	1 47 26.6	.8620
18	3 8 39.20	14 23 38.4	.6372421	21 20.6	288 38 2.6	1 52 10.5	.8621
19	3 10 30.08	14 26 17.3	.6442011	21 18.6	290 12 53.2	1 56 49.2	.8621
20	3 12 26.74	14 29 35.3	.6511213	21 16.7	291 47 43.6	2 1 22.5	.8621
21	3 14 28.98	14 33 30.4	.6579988	21 14.8	293 22 34.0	2 5 50.2	.8621
22	3 16 36.61	14 38 0.6	.6648301	21 13.1	294 57 24.2	2 10 12.2	.8621
23	3 18 49.46	14 43 3.7	.6716122	21 11.4	296 32 14.5	2 14 28.1	.8621
24	3 21 7.36	14 48 37.8	.6783428	21 9.8	298 7 4.8	2 18 38.0	.8621
25	3 23 30.14	14 54 40.9	.6850194	21 8.3	299 41 55.3	2 22 41.5	.8621
26	3 25 57.67	15 1 11.1	.6916400	21 7.0	301 16 45.9	2 26 38.4	.8621
27	3 28 29.79	15 8 6.4	.6982029	21 5.6	302 51 36.8	2 30 28.6	.8621
28	3 31 6.38	15 15 25.0	.7047068	21 4.3	304 26 28.0	2 34 12.0	.8621
29	3 33 47.30	15 23 5.2	.7111504	21 3.2	306 1 19.6	2 37 48.4	.8621
30	3 36 32.43	15 31 5.0	.7175325	21 2.1	307 36 11.6	2 41 17.5	.8621
31	3 39 21.66	N. 15 39 22.9	9.7238521	21 1.0	309 11 4.0	S. 2 44 39.3	9

JUNE, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 2 55 9.47	^s — 0.67	^s 1.73	[°] ['] ["] N. 15 39 6.7	["] — 32.0	["] 24.9	["] 25.9
2 54 57.92	— 0.29	1.70	15 26 50.4	29.3	24.6	25.5
2 54 55.36	+ 0.08	1.67	15 15 38.9	26.6	24.2	25.1
2 55 1.68	0.45	1.64	15 5 32.0	23.9	23.9	24.8
2 55 16.77	0.81	1.62	14 56 29.7	21.3	23.5	24.4
2 55 40.40	1.16	1.59	14 48 30.7	18.7	23.1	24.0
2 56 12.43	1.51	1.57	14 41 34.5	16.1	22.8	23.7
2 56 52.65	1.84	1.54	14 35 39.4	13.6	22.4	23.3
2 57 40.88	2.17	1.51	14 30 43.8	11.1	22.0	22.9
2 58 36.87	2.49	1.49	14 26 46.6	8.7	21.6	22.5
2 59 40.41	2.80	1.46	14 23 45.3	6.4	21.4	22.2
3 0 51.26	3.10	1.44	14 21 38.2	4.2	21.0	21.8
3 2 9.22	3.39	1.41	14 20 23.4	— 2.1	20.6	21.4
3 3 34.04	3.67	1.39	14 19 58.7	0.0	20.2	21.0
3 5 5.50	3.94	1.36	14 20 21.8	+ 1.9	19.9	20.7
3 6 43.36	4.21	1.34	14 21 30.8	3.8	19.6	20.4
3 8 27.45	4.46	1.32	14 23 23.5	5.6	19.3	20.1
3 10 17.51	4.71	1.29	14 25 57.7	7.2	19.0	19.8
3 12 13.38	4.94	1.27	14 29 11.2	8.8	18.7	19.4
3 14 14.84	5.17	1.25	14 33 2.0	10.3	18.3	19.0
3 16 21.70	5.40	1.23	14 37 27.9	11.8	18.0	18.7
3 18 33.81	5.61	1.22	14 42 27.0	13.1	17.7	18.4
3 20 50.97	5.82	1.21	14 47 57.2	14.4	17.5	18.2
3 23 13.03	6.02	1.19	14 53 56.6	15.5	17.3	18.0
3 25 39.85	6.21	1.17	15 0 23.3	16.6	17.0	17.7
3 28 11.29	6.40	1.15	15 7 15.3	17.7	16.7	17.4
3 30 47.20	6.59	1.14	15 14 30.8	18.6	16.5	17.2
3 33 27.46	6.77	1.13	15 22 8.0	19.5	16.3	16.9
3 36 11.94	6.94	1.12	15 30 5.1	20.3	16.1	16.7
3 39 0.54	7.11	1.10	15 38 20.5	21.0	15.8	16.4
3 41 53.13			5 46 52.3	+ 21.6	15.6	16.2

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>		
1	3 39 21.66	N. 15 39 22.9	9.7238521	21 1.0	309 11 4.0	S. 2 44 39.3	9.866	
2	3 42 14.88	15 47 57.1	7301087	21 0.0	310 45 57.0	2 47 53.5	866	
3	3 45 11.98	15 56 45.9	7363014	20 59.0	312 20 50.5	2 51 0.1	866	
4	3 48 12.85	16 5 47.7	7424296	20 58.1	313 55 44.6	2 53 58.9	866	
5	3 51 17.40	16 15 0.9	7484929	20 57.3	315 30 39.4	2 56 49.8	866	
6	3 54 25.53	16 24 23.8	7544910	20 56.5	317 5 34.9	2 59 32.5	866	
7	3 57 37.15	16 33 55.0	7604235	20 55.8	318 40 31.1	3 2 7.1	866	
8	4 0 52.16	16 43 32.8	7662903	20 55.2	320 15 28.2	3 4 33.5	866	
9	4 4 10.48	16 53 15.8	7720913	20 54.6	321 50 26.0	3 6 51.4	866	
10	4 7 32.02	17 3 2.5	7778266	20 54.1	323 25 24.7	3 9 0.7	866	
11	4 10 56.69	17 12 51.6	7834963	20 53.6	325 0 24.4	3 11 1.5	866	
12	4 14 24.41	17 22 41.6	7891006	20 53.2	326 35 24.9	3 12 53.5	866	
13	4 17 55.11	17 32 31.2	7946400	20 52.8	328 10 26.5	3 14 36.7	866	
14	4 21 28.70	17 42 19.1	8001148	20 52.5	329 45 29.0	3 16 10.9	866	
15	4 25 5.10	17 52 4.0	8055255	20 52.2	331 20 32.6	3 17 36.3	866	
16	4 28 44.25	18 1 44.6	8108728	20 51.9	332 55 37.3	3 18 52.5	866	
17	4 32 26.07	18 11 19.9	8161573	20 51.7	334 30 43.1	3 19 59.8	866	
18	4 36 10.50	18 20 48.6	8213797	20 51.5	336 5 50.0	3 20 57.7	866	
19	4 39 57.46	18 30 9.5	8265409	20 51.4	337 40 58.0	3 21 46.6	866	
20	4 43 46.90	18 39 21.7	8316415	20 51.3	339 16 7.2	3 22 26.2	866	
21	4 47 38.75	18 48 23.9	8366823	20 51.3	340 51 17.6	3 22 56.6	866	
22	4 51 32.96	18 57 15.2	8416642	20 51.3	342 26 29.2	3 23 17.6	866	
23	4 55 29.47	19 5 54.5	8465882	20 51.3	344 1 42.0	3 23 29.2	866	
24	4 59 28.21	19 14 20.9	8514550	20 51.4	345 36 56.2	3 23 31.7	866	
25	5 3 29.15	19 22 33.4	8562656	20 51.5	347 12 11.5	3 23 24.7	866	
26	5 7 32.23	19 30 31.0	8610209	20 51.7	348 47 28.2	3 23 8.3	866	
27	5 11 37.40	19 38 12.8	8657217	20 51.8	350 22 46.2	3 22 42.6	866	
28	5 15 44.61	19 45 37.9	8703686	20 52.0	351 58 5.5	3 22 7.1		
29	5 19 53.81	19 52 45.5	8749625	20 52.3	353 33 26.2	3 21 23.1		
30	5 24 4.97	19 59 34.6	8795041	20 52.6	355 8 48.2	3 20 29.1		
31	5 28 18.03	20 6 4.5	8839939	20 52.8	356 44 11.6	3 19 26.8		
32	5 32 32.95	N. 20 12 14.3	9.8884326	20 53.2	358 19 36.4	S. 3 18 14.6	9.866	

JULY, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^m ^s 1 53 13	^s + 7 27	^s 1 08	[°] ['] ["] N. 15 46 52 3	["] + 21 6	["] 15 6	["] 16 2
4 49 63	7 43	1 07	15 55 39 0	22 2	15 3	15 9
7 49 91	7 59	1 05	16 4 38 9	22 7	15 1	15 7
0 53 90	7 74	1 04	16 13 50 5	23 2	14 9	15 5
4 1 47	7 89	1 02	16 23 11 9	23 6	14 6	15 2
7 12 55	8 03	1 00	16 32 41 8	23 9	14 4	15 0
0 27 04	8 17	0 99	16 42 18 6	24 1	14 2	14 8
3 44 85	8 31	0 97	16 52 0 8	24 3	14 0	14 6
7 5 90	8 44	0 96	17 1 46 8	24 5	13 9	14 4
0 30 10	8 57	0 95	17 11 35 4	24 6	13 8	14 3
3 57 35	8 70	0 95	17 21 25 2	24 6	13 6	14 1
7 27 61	8 82	0 94	17 31 14 8	24 5	13 4	13 9
1 0 77	8 94	0 93	17 41 2 8	24 4	13 3	13 8
4 36 76	9 06	0 92	17 50 48 0	24 3	13 1	13 6
8 15 51	9 17	0 91	18 0 29 1	24 1	12 9	13 4
1 56 96	9 28	0 90	18 10 5 0	23 9	12 8	13 3
5 41 02	9 39	0 89	18 19 34 6	23 6	12 6	13 1
9 27 62	9 49	0 88	18 28 56 6	23 2	12 5	13 0
3 16 72	9 59	0 87	18 38 10 0	22 9	12 3	12 8
7 8 24	9 69	0 86	18 47 13 5	22 5	12 1	12 6
1 2 14	9 79	0 84	18 56 6 3	22 0	12 0	12 5
4 58 35	9 89	0 83	19 4 47 2	21 5	11 9	12 4
8 56 80	9 98	0 81	19 13 15 4	20 9	11 7	12 2
2 57 47	10 07	0 80	19 21 29 8	20 3	11 5	12 0
7 0 29	10 16	0 80	19 29 29 4	19 7	11 4	11 9
1 5 21	10 25	0 79	19 37 13 4	19 0	11 4	11 8
5 12 19	10 34	0 79	19 44 40 8	18 3	11 3	11 7
9 01 16	10 42	0 78	19 51 50 8	17 6	11 2	11 6
		0 77	19 58 42 4	16 8	11 0	11 4
		0 76	20 5 15 0	16 0	10 9	11 3
		76	20 11 27 5	15 1	10 8	11 2
			17 19 1	+ 14 2	10 7	11 1

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	5 32 32.95	N. 20 12 14.3	9.8884326	20 53.2	358 19 36.4	S. 3 18 14.6	9.861
2	5 36 49.67	20 18 3.1	.8928208	20 53.5	359 55 2.6	3 16 53.4	.861
3	5 41 8.15	20 23 30.2	.8971590	20 53.9	1 30 30.2	3 15 22.9	.861
4	5 45 28.33	20 28 34.9	.9014477	20 54.3	3 5 59.3	3 13 43.5	.861
5	5 49 50.18	20 33 16.5	.9056874	20 54.8	4 41 29.7	3 11 55.1	.861
6	5 54 13.62	20 37 34.1	.9098787	20 55.3	6 17 1.6	3 9 57.8	.860
7	5 58 38.62	20 41 27.2	.9140221	20 55.8	7 52 35.0	3 7 51.6	.860
8	6 3 5.12	20 44 55.1	.9181180	20 56.3	9 28 9.9	3 5 36.7	.860
9	6 7 33.04	20 47 57.1	.9221670	20 56.9	11 3 46.2	3 3 13.2	.860
10	6 12 2.35	20 50 32.7	.9261696	20 57.4	12 39 24.1	3 0 41.2	.860
11	6 16 32.98	20 52 41.3	.9301263	20 58.0	14 15 3.4	2 58 0.7	.860
12	6 21 4.86	20 54 22.4	.9340378	20 58.6	15 50 44.2	2 55 11.9	.860
13	6 25 37.95	20 55 35.5	.9379044	20 59.2	17 26 26.6	2 52 15.0	.860
14	6 30 12.17	20 56 20.1	.9417268	20 59.8	19 2 10.5	2 49 9.9	.860
15	6 34 47.49	20 56 35.8	.9455055	21 0.5	20 37 55.9	2 45 56.9	.860
16	6 39 23.82	20 56 22.2	.9492413	21 1.2	22 13 42.9	2 42 36.1	.860
17	6 44 1.12	20 55 38.8	.9529347	21 1.9	23 49 31.4	2 39 7.7	.860
18	6 48 39.32	20 54 25.4	.9565865	21 2.6	25 25 21.5	2 35 31.8	.860
19	6 53 18.37	20 52 41.6	.9601973	21 3.3	27 1 13.2	2 31 48.6	.859
20	6 57 58.20	20 50 27.1	.9637678	21 4.0	28 37 6.4	2 27 58.3	.859
21	7 2 38.78	20 47 41.6	.9672987	21 4.8	30 13 1.3	2 24 0.9	.859
22	7 7 20.03	20 44 25.0	.9707907	21 5.5	31 48 57.8	2 19 56.7	.859
23	7 12 1.92	20 40 37.0	.9742444	21 6.3	33 24 55.9	2 15 45.9	.859
24	7 16 44.40	20 36 17.5	.9776604	21 7.0	35 0 55.6	2 11 28.6	.859
25	7 21 27.41	20 31 26.1	.9810392	21 7.8	36 36 57.0	2 7 5.2	.859
26	7 26 10.89	20 26 2.9	.9843815	21 8.6	38 13 0.0	2 2 35.7	.859
27	7 30 54.81	20 20 7.6	.9876877	21 9.4	39 49 4.7	1 58 0.3	.859
28	7 35 39.12	20 13 40.2	.9909583	21 10.2	41 25 11.1	1 53 10.4	.859
29	7 40 23.77	20 6 40.5	.9941937	21 11.0	43 1 19.2		
30	7 45 8.72	19 59 8.6	.9973945	21 11.8	44 37 28.1		
31	7 49 53.92	19 51 4.4	0.0005610	21 12.6	46 13 40.0		
32	7 54 39.33	N. 19 42 27.9	0.0036935	21 13.4	47 49 53.0		

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	5 36 16.26	+10.73	0.75	N. 20 17 19.1	+14.2	10.7	11.1
2	5 40 34.58	10.80	0.75	20 22 49.1	13.3	10.6	11.0
3	5 44 54.62	10.87	0.74	20 27 56.9	12.3	10.5	10.9
4	5 49 16.34	10.94	0.74	20 32 41.5	11.4	10.4	10.8
5	5 53 39.66	11.00	0.73	20 37 2.3	10.4	10.3	10.7
6	5 58 4.55	11.07	0.73	20 40 58.7	9.4	10.2	10.6
7	6 2 30.95	11.13	0.72	20 44 29.9	8.3	10.1	10.5
8	6 6 58.79	11.19	0.71	20 47 35.4	7.2	10.0	10.4
9	6 11 28.02	11.25	0.70	20 50 14.4	6.1	9.9	10.3
10	6 15 58.59	11.30	0.70	20 52 26.5	5.0	9.8	10.2
11	6 20 30.42	11.35	0.69	20 54 11.1	3.8	9.7	10.1
12	6 25 3.48	11.40	0.69	20 55 27.8	2.6	9.6	10.0
13	6 29 37.67	11.45	0.68	20 56 16.0	1.4	9.5	9.9
14	6 34 12.98	11.49	0.67	20 56 35.4	+ 0.2	9.4	9.8
15	6 38 49.31	11.53	0.66	20 56 25.5	- 1.0	9.3	9.7
16	6 43 26.62	11.57	0.66	20 55 45.9	2.3	9.2	9.6
17	6 48 4.84	11.61	0.65	20 54 36.2	3.5	9.2	9.6
18	6 52 43.93	11.65	0.65	20 52 56.1	4.8	9.1	9.5
19	6 57 23.81	11.68	0.64	20 50 45.3	6.1	9.0	9.4
20	7 2 4.45	11.71	0.63	20 48 3.5	7.4	8.9	9.3
21	7 6 45.77	11.74	0.63	20 44 50.5	8.7	8.8	9.2
22	7 11 27.73	11.76	0.62	20 41 6.2	10.0	8.8	9.2
23	7 16 10.30	11.79	0.62	20 36 50.4	11.4	8.8	9.1
24	7 20 53.41	11.81	0.62	20 32 2.7	12.7	8.8	9.1
25	7 25 36.98	11.83	0.61	20 26 43.1	14.0	8.7	9.0
26	7 30 21.01	11.84	0.61	20 20 51.5	15.3	8.7	9.0
27	7 35 5.43	11.86	0.60	20 14 27.8	16.7	8.6	8.9
28	7 40 50.00	11.87	0.60	20 7 31.6	18.0	8.5	8.8
		11.88	0.59	20 0 3.2	19.4	8.4	8.7
		39	0.59	19 52 2.5	20.7	8.3	8.6
			0.58	19 43 29.5	22.0	8.3	8.6
			0.58	N. 19 34 24.2	-23.4	8.2	8.5

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. V.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	7 54 39.33	N. 19 42 27.9	0.0036935	21 13.4	47 49 53.6	S. 1 33 43.3	9.85887
2	7 59 24.91	19 33 19.2	0.0067924	21 14.2	49 26 8.5	1 28 37.4	9.85871
3	8 4 10.61	19 23 38.3	0.0098580	21 15.1	51 2 25.1	1 23 27.3	9.85871
4	8 8 56.40	19 13 25.3	0.0128906	21 15.9	52 38 43.5	1 18 13.1	9.85861
5	8 13 42.23	19 2 40.3	0.0158905	21 16.7	54 15 3.7	1 12 55.0	9.85855
6	8 18 28.05	18 51 23.4	0.0188579	21 17.6	55 51 25.6	1 7 33.5	9.85847
7	8 23 13.84	18 39 34.9	0.0217931	21 18.4	57 27 49.3	1 2 8.6	9.85839
8	8 27 59.55	18 27 14.9	0.0246962	21 19.2	59 4 14.7	0 56 40.7	9.85831
9	8 32 45.15	18 14 23.6	0.0275677	21 20.0	60 40 42.0	0 51 10.0	9.85823
10	8 37 30.60	18 1 1.4	0.0304078	21 20.8	62 17 11.0	0 45 36.8	9.85815
11	8 42 15.85	17 47 8.5	0.0332169	21 21.6	63 53 41.9	0 40 1.3	9.85807
12	8 47 0.88	17 32 45.2	0.0359954	21 22.4	65 30 14.6	0 34 23.7	9.85800
13	8 51 45.66	17 17 51.9	0.0387435	21 23.2	67 6 49.0	0 28 44.5	9.85792
14	8 56 30.16	17 2 28.9	0.0414617	21 24.0	68 43 25.3	0 23 3.7	9.85784
15	9 1 14.35	16 46 36.6	0.0441503	21 24.8	70 20 3.4	0 17 21.7	9.85776
16	9 5 58.20	16 30 15.3	0.0468096	21 25.6	71 56 43.3	0 11 38.8	9.85771
17	9 10 41.69	16 13 25.5	0.0494401	21 26.4	73 33 25.1	0 5 55.3	9.85764
18	9 15 24.79	15 56 7.5	0.0520422	21 27.2	75 10 8.6	S. 0 11.3	9.85757
19	9 20 7.50	15 38 21.9	0.0546164	21 27.9	76 46 54.0	N. 0 5 32.7	9.85750
20	9 24 49.79	15 20 9.0	0.0571631	21 28.6	78 23 41.1	0 11 16.6	9.85744
21	9 29 31.65	15 1 29.4	0.0596826	21 29.4	80 0 30.1	0 17 0.1	9.85737
22	9 34 13.07	14 42 23.4	0.0621754	21 30.1	81 37 20.8	0 22 42.9	9.85731
23	9 38 54.05	14 22 51.6	0.0646418	21 30.9	83 14 13.4	0 28 24.7	9.85725
24	9 43 34.58	14 2 54.4	0.0670821	21 31.6	84 51 7.7	0 34 5.3	9.85719
25	9 48 14.65	13 42 32.3	0.0694966	21 32.4	86 28 3.7	0 39 44.2	9.85713
26	9 52 54.26	13 21 45.8	0.0718858	21 33.1	88 5 1.5	0 45 21.4	9.85708
27	9 57 33.41	13 0 35.4	0.0742500	21 33.8	89 42 1.1	0 50 56.5	9.85703
28	10 2 12.11	12 39 1.6	0.0765895	21 34.5	91 19 2.3	0 56 29.3	9.85697
29	10 6 50.37	12 17 5.1	0.0789046	21 35.2	92 56 5.3	1 1 59.4	9.85692
30	10 11 28.17	11 54 46.2	0.0811952	21 35.9	94 33 9.9	1 7 26.6	9.85687
31	10 16 5.53	N. 11 32 5.7	0.0834617	21 36.5	96 10 16.1	N. 1 12 50.0	9.85682

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	7 58 51.88	+11.91	0.58	N. 19 34 24.2	-23.4	8.2	8.5
2	8 3 37.72	11.91	0.58	19 24 46.7	24.7	8.2	8.5
3	8 8 23.67	11.92	0.57	19 14 37.0	26.1	8.1	8.4
4	8 13 9.66	11.92	0.56	19 3 55.3	27.4	8.0	8.3
5	8 17 55.65	11.92	0.56	18 52 41.7	28.7	8.0	8.3
6	8 22 41.60	11.92	0.55	18 40 56.4	30.0	7.9	8.2
7	8 27 27.49	11.91	0.55	18 28 39.5	31.4	7.9	8.2
8	8 32 13.26	11.91	0.55	18 15 51.2	32.7	7.8	8.1
9	8 36 58.90	11.90	0.54	18 2 32.0	34.0	7.8	8.1
10	8 41 44.33	11.89	0.54	17 48 42.0	35.2	7.7	8.0
11	8 46 29.55	11.88	0.53	17 34 21.5	36.5	7.6	7.9
12	8 51 14.52	11.87	0.53	17 19 31.0	37.7	7.6	7.9
13	8 55 59.22	11.86	0.52	17 4 10.7	39.0	7.5	7.8
14	9 0 43.60	11.85	0.52	16 48 21.1	40.2	7.5	7.8
15	9 5 27.64	11.83	0.52	16 32 2.4	41.4	7.4	7.7
16	9 10 11.32	11.82	0.51	16 15 15.1	42.6	7.4	7.7
17	9 14 54.62	11.80	0.51	15 57 59.5	43.8	7.4	7.7
18	9 19 37.52	11.78	0.51	15 40 16.3	44.9	7.3	7.6
19	9 24 20.00	11.76	0.50	15 22 5.7	46.0	7.3	7.6
20	9 29 2.05	11.74	0.50	15 3 28.3	47.1	7.2	7.5
21	9 33 43.67	11.72	0.49	14 44 24.4	48.2	7.2	7.5
22	9 38 24.84	11.70	0.49	14 24 54.7	49.3	7.1	7.4
23	9 43 5.56	11.69	0.49	14 4 59.5	50.4	7.1	7.4
24	9 47 45.82	11.67	0.48	13 44 39.4	51.4	7.0	7.3
25	9 52 25.62	11.65	0.48	13 23 54.7	52.4	7.0	7.3
26	9 57 4.95	11.63	0.48	13 2 46.1	53.3	7.0	7.3
27	10 1 43.84	11.61	0.47	12 41 14.1	54.3	6.9	7.2
28	10 6 22.28	11.59	0.47	12 19 19.3	55.3	6.9	7.2
29	10 11 5.05	11.57	0.47	11 57 1.9	56.2	6.9	7.2
30		11.56	0.47	11 34 22.9	57.1	6.8	7.1
31			0.47	N. 11 11 22.8	-57.9	6.8	7.1

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.			
					Longitude.	Latitude.	Log Rad.
					Noon.	Noon.	Noon.
<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>		
1	10 16 55.3	N. 11 32 57	0.0834617	21 36.5	96 10 16.1	N. 12 50.7	9.856
2	10 20 42.46	11 9 4.1	0.0857041	21 37.2	97 47 23.9	1 18 11.4	.856
3	10 25 18.97	10 45 41.9	0.0879226	21 37.9	99 24 33.3	1 23 28.4	.856
4	10 29 55.06	10 21 59.7	0.0901174	21 38.6	101 1 44.3	1 28 41.4	.856
5	10 34 30.75	9 57 58.2	0.0922887	21 39.2	102 38 56.8	1 33 50.3	.856
6	10 39 6.06	9 33 37.9	0.0944366	21 39.8	104 16 10.8	1 38 54.7	.856
7	10 43 40.99	9 8 59.4	0.0965613	21 40.4	105 53 26.2	1 43 54.4	.856
8	10 48 15.56	8 44 3.5	0.0986629	21 41.0	107 30 43.0	1 48 49.2	.856
9	10 52 49.78	8 18 50.7	0.1007415	21 41.6	109 8 1.2	1 53 38.7	.856
10	10 57 23.67	7 53 21.8	0.1027973	21 42.2	110 45 20.6	1 58 22.9	.856
11	11 1 57.24	7 27 37.5	0.1048304	21 42.8	112 22 41.4	2 3 1.5	.856
12	11 6 30.51	7 1 38.4	0.1068410	21 43.4	114 0 3.4	2 7 34.0	.856
13	11 11 3.50	6 35 25.1	0.1088293	21 44.1	115 37 26.5	2 12 0.5	.856
14	11 15 36.23	6 8 58.4	0.1107955	21 44.7	117 14 50.8	2 16 20.7	.856
15	11 20 8.72	5 42 18.9	0.1127399	21 45.3	118 52 16.1	2 20 34.4	.856
16	11 24 41.00	5 15 27.4	0.1146627	21 45.9	120 29 42.4	2 24 41.3	.856
17	11 29 13.08	4 48 24.6	0.1165643	21 46.5	122 7 9.6	2 28 41.2	.856
18	11 33 44.99	4 21 11.1	0.1184450	21 47.1	123 44 37.6	2 32 34.0	.856
19	11 38 16.76	3 53 47.7	0.1203050	21 47.7	125 22 6.5	2 36 19.5	.856
20	11 42 48.41	3 26 15.0	0.1221445	21 48.3	126 59 36.1	2 39 57.4	.856
21	11 47 19.98	2 58 33.7	0.1239637	21 48.8	128 37 6.3	2 43 27.7	.856
22	11 51 51.49	2 30 44.4	0.1257628	21 49.4	130 14 37.2	2 46 50.0	.856
23	11 56 22.96	2 2 47.9	0.1275421	21 50.0	131 52 8.5	2 50 4.3	.856
24	12 0 54.45	1 34 44.9	0.1293019	21 50.6	133 29 40.2	2 53 10.3	.856
25	12 5 25.97	1 6 36.1	0.1310426	21 51.2	135 7 12.3	2 56 8.1	.856
26	12 9 57.57	0 38 22.2	0.1327645	21 51.8	136 44 44.7	2 58 57.3	.856
27	12 14 29.27	N. 0 10 3.9	0.1344676	21 52.4	138 22 17.3	3 1 37.9	.856
28	12 19 1.12	S. 0 18 18.2	0.1361521	21 53.0	139 59 4.1	3 4 3.1	.856
29	12 23 33.15	0 46 43.3	0.1378182	21 53.6			
30	12 28 5.40	1 15 10.7	0.1394659				
31	12 32 37.89	1 43 39.8	0.1410954				
32	12 37 10.68	S. 2 12 9.7	0.1427067	21 54.2			

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
1	^h 10 ^m 20 ^s 14·89	^s +11·54	^s 0·47	N. [°] 11 ['] 11 ["] 22·8	["] -57·9	["] 6·8	["] 7·1
2	10 24 51·57	11·52	0·46	10 48 1·9	58·8	6·8	7·1
3	10 29 27·83	11·50	0·46	10 24 21·0	59·6	6·7	7·0
4	10 34 3·68	11·48	0·46	10 0 20·7	60·4	6·7	7·0
5	10 38 39·16	11·47	0·45	9 36 1·5	61·2	6·7	7·0
6	10 43 14·24	11·45	0·45	9 11 24·1	61·9	6·6	6·9
7	10 47 48·96	11·44	0·44	8 46 29·2	62·6	6·6	6·9
8	10 52 23·32	11·42	0·44	8 21 17·4	63·3	6·6	6·9
9	10 56 57·36	11·41	0·43	7 55 49·4	64·0	6·5	6·8
10	11 1 31·08	11·40	0·43	7 30 5·9	64·6	6·5	6·8
11	11 6 4·49	11·39	0·43	7 4 7·5	65·2	6·5	6·8
12	11 10 37·63	11·38	0·43	6 37 54·8	65·8	6·4	6·7
13	11 15 10·50	11·36	0·42	6 11 28·7	66·4	6·4	6·7
14	11 19 43·12	11·35	0·42	5 44 49·7	66·9	6·4	6·7
15	11 24 15·54	11·35	0·42	5 17 58·7	67·4	6·3	6·6
16	11 28 47·75	11·34	0·42	4 50 56·3	67·9	6·3	6·6
17	11 33 19·79	11·33	0·42	4 23 43·1	68·3	6·3	6·6
18	11 37 51·68	11·33	0·42	3 56 19·9	68·7	6·2	6·5
19	11 42 23·45	11·32	0·42	3 28 47·3	69·0	6·2	6·5
20	11 46 55·13	11·32	0·42	3 1 6·1	69·4	6·2	6·5
21	11 51 26·77	11·32	0·41	2 33 16·7	69·7	6·1	6·4
22	11 55 58·34	11·32	0·41	2 5 20·2	70·0	6·1	6·4
23	12 0 29·94	11·32	0·41	1 37 17·0	70·3	6·1	6·4
24	12 5 1·56	11·32	0·41	1 9 8·1	70·5	6·1	6·3
25	12 9 33·27	11·32	0·41	0 40 54·0	70·7	6·1	6·3
26	12 14 5·07	11·33	0·41	N. 0 12 35·4	70·9	6·1	6·3
27	12 18 37·01	11·33	0·41	S. 0 15 47·2	71·0	6·1	6·3
28	12 23 9·14	11·34	0·41	0 44 12·7	71·1	6·1	6·3
29	12 27 41·48	11·35	0·41	1 12 40·6	71·2	6·1	6·3
	12 32 14·06	11·36	0·41	1 41 10·3	71·3	6·1	6·3
	12 36 46·93	11·38	0·41	2 9 40·9	71·3	6·0	6·2
	20·13	+11·39	0·41	S. 2 38 11·7	-71·3	6·0	6·2

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	12 37 10.68	S. 2 12 9.7	0.1427067	21 55.3	146 30 0.0	N.3 12 47.2	9.856
2	12 41 43.79	2 40 39.8	.1443000	21 55.9	148 7 32.0	3 14 33.5	.856
3	12 46 17.26	3 9 9.3	.1458754	21 56.5	149 45 3.6	3 16 10.4	.856
4	12 50 51.12	3 37 37.4	.1474329	21 57.2	151 22 34.7	3 17 37.9	.856
5	12 55 25.40	4 6 3.4	.1489726	21 57.8	153 0 5.2	3 18 55.8	.856
6	13 0 0.15	4 34 26.5	.1504945	21 58.5	154 37 35.1	3 20 4.2	.856
7	13 4 35.40	5 2 46.0	.1519986	21 59.2	156 15 4.2	3 21 2.9	.856
8	13 9 11.17	5 31 1.0	.1534851	21 59.8	157 52 32.4	3 21 52.0	.856
9	13 13 47.51	5 59 10.8	.1549541	22 0.5	159 29 59.8	3 22 31.3	.856
10	13 18 24.45	6 27 14.7	.1564056	22 1.2	161 7 26.1	3 23 0.9	.856
11	13 23 2.01	6 55 11.8	.1578399	22 1.9	162 44 51.2	3 23 20.6	.856
12	13 27 40.23	7 23 1.4	.1592570	22 2.6	164 22 15.2	3 23 30.6	.856
13	13 32 19.14	7 50 42.5	.1606571	22 3.3	165 59 38.0	3 23 30.9	.856
14	13 36 58.77	8 18 14.6	.1620403	22 4.0	167 36 59.3	3 23 21.4	.856
15	13 41 39.15	8 45 36.7	.1634067	22 4.7	169 14 19.2	3 23 2.0	.856
16	13 46 20.30	9 12 48.1	.1647567	22 5.5	170 51 37.6	3 22 33.1	.856
17	13 51 2.27	9 39 47.9	.1660904	22 6.2	172 28 54.4	3 21 54.4	.856
18	13 55 45.07	10 6 35.5	.1674080	22 7.0	174 6 9.5	3 21 6.0	.856
19	14 0 28.74	10 33 10.0	.1687099	22 7.8	175 43 22.9	3 20 7.9	.856
20	14 5 13.30	10 59 30.6	.1699961	22 8.6	177 20 34.4	3 19 0.4	.856
21	14 9 58.80	11 25 36.6	.1712669	22 9.4	178 57 44.1	3 17 43.3	.856
22	14 14 45.24	11 51 27.1	.1725224	22 10.3	180 34 51.8	3 16 16.9	.856
23	14 19 32.66	12 17 1.4	.1737628	22 11.2	182 11 57.4	3 14 41.0	.856
24	14 24 21.08	12 42 18.6	.1749883	22 12.1	183 49 1.0	3 12 55.9	.856
25	14 29 10.53	13 7 18.0	.1761989	22 13.0	185 26 2.3	3 11 1.7	.856
26	14 34 1.04	13 31 58.8	.1773950	22 13.9	187 3 1.5	3 8 58.4	.856
27	14 38 52.62	13 56 20.2	.1785766	22 14.9	188 39 58.3	3 6 46.1	.856
28	14 43 45.31	14 20 21.4	.1797438	22 15.8	190 16 52.8	3 4 25.0	.856
29	14 48 39.11	14 44 1.6	.1808966	22 16.8	191 53 44.9	3 1 55.0	.856
30	14 53 34.05	15 7 20.0	.1820353	22 17.8	193 30 34.6	2 59 16.6	.856
31	14 58 30.15	S. 15 30 15.9	0.1831857		195 7 21.8	N.2 56 29.7	9.856

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 12 41 20.13	+ ^s 11.39	^s 0.41	S. [°] ['] ["] 2 38 11.7	— ["] 71.3	["] 6.0	["] 6.2
12 45 53.68	11.40	0.40	3 6 42.0	71.2	6.0	6.2
12 50 27.62	11.42	0.40	3 35 11.0	71.2	5.9	6.1
12 55 1.99	11.44	0.40	4 3 38.1	71.1	5.9	6.1
12 59 36.82	11.46	0.40	4 32 2.2	71.0	5.9	6.1
13 4 12.15	11.48	0.39	5 0 22.8	70.8	5.8	6.0
13 8 48.00	11.51	0.39	5 28 39.0	70.6	5.8	6.0
13 13 24.42	11.53	0.39	5 56 50.1	70.3	5.8	6.0
13 18 1.43	11.56	0.39	6 24 55.3	70.1	5.8	6.0
13 22 39.07	11.58	0.39	6 52 53.8	69.8	5.8	6.0
13 27 17.37	11.61	0.39	7 20 44.9	69.5	5.8	6.0
13 31 56.37	11.64	0.38	7 48 27.5	69.1	5.8	6.0
13 36 36.08	11.67	0.38	8 16 1.1	68.7	5.7	5.9
13 41 16.54	11.70	0.38	8 43 24.9	68.3	5.7	5.9
13 45 57.77	11.74	0.38	9 10 38.0	67.8	5.7	5.9
13 50 39.83	11.77	0.38	9 37 39.6	67.3	5.7	5.9
13 55 22.71	11.80	0.38	10 4 29.0	66.8	5.7	5.9
14 0 6.46	11.84	0.38	10 31 5.4	66.2	5.6	5.8
14 4 51.11	11.88	0.38	10 57 28.0	65.6	5.6	5.8
14 9 36.70	11.92	0.38	11 23 36.1	65.0	5.6	5.8
14 14 23.23	11.96	0.38	11 49 28.7	64.4	5.6	5.8
14 19 10.74	12.00	0.38	12 15 5.2	63.7	5.6	5.8
14 23 59.25	12.04	0.38	12 40 24.6	63.0	5.6	5.8
14 28 48.80	12.08	0.38	13 5 26.3	62.2	5.5	5.7
14 33 39.41	12.13	0.38	13 30 9.4	61.4	5.5	5.7
14 38 31.10	12.17	0.38	13 54 33.2	60.6	5.5	5.7
14 43 23.90	12.22	0.38	14 18 36.8	59.7	5.5	5.7
14 48 17.81	12.27	0.38	14 42 19.6	58.8	5.5	5.7
14 53 12.87	12.32	0.38	15 5 40.5	57.9	5.5	5.7
14 58 9.09	12.37	0.38	15 28 39.0	57.0	5.4	5.6
15 3 6.48	+ 12.42	0.38	S. 15 51 14.1	— 56.0	5.4	5.6

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ' "</i>		<i>h m</i>	<i>° ' "</i>	<i>° ' "</i>	
1	14 58 30.15	S. 15 30 15.9	0.1831598	22 18.8	195 7 21.8	N. 2 56 29.7	9.8580
2	15 3 27.42	15 52 48.4	.1842702	22 19.8	196 44 6.5	2 53 34.4	.8581
3	15 8 25.87	16 14 56.7	.1853665	22 20.8	198 20 48.6	2 50 31.1	.8582
4	15 13 25.51	16 36 40.0	.1864488	22 21.9	199 57 28.1	2 47 19.7	.8583
5	15 18 26.35	16 57 57.5	.1875171	22 23.0	201 34 5.0	2 44 0.4	.8584
6	15 23 28.39	17 18 48.5	.1885714	22 24.1	203 10 39.2	2 40 33.6	.8584
7	15 28 31.64	17 39 12.1	.1896118	22 25.2	204 47 10.7	2 36 59.1	.8585
8	15 33 36.09	17 59 7.6	.1906383	22 26.4	206 23 39.5	2 33 17.3	.8586
9	15 38 41.74	18 18 34.1	.1916509	22 27.6	208 0 5.7	2 29 28.4	.8587
10	15 43 48.59	18 37 31.0	.1926497	22 28.8	209 36 29.0	2 25 32.6	.8588
11	15 48 56.62	18 55 57.5	.1936348	22 30.0	211 12 49.6	2 21 29.9	.8588
12	15 54 5.82	19 13 52.8	.1946063	22 31.2	212 49 7.5	2 17 20.7	.8589
13	15 59 16.18	19 31 16.2	.1955642	22 32.5	214 25 22.6	2 13 5.1	.8590
14	16 4 27.69	19 48 7.0	.1965088	22 33.7	216 1 34.9	2 8 43.5	.8591
15	16 9 40.32	20 4 24.4	.1974400	22 35.0	217 37 44.4	2 4 15.8	.8592
16	16 14 54.05	20 20 7.9	.1983581	22 36.3	219 13 51.2	1 59 42.4	.8593
17	16 20 8.86	20 35 16.7	.1992631	22 37.6	220 49 55.3	1 55 3.6	.8593
18	16 25 24.73	20 49 50.3	.2001553	22 39.0	222 25 56.7	1 50 19.5	.8594
19	16 30 41.63	21 3 47.8	.2010349	22 40.3	224 1 55.3	1 45 30.2	.8595
20	16 35 59.53	21 17 8.9	.2019019	22 41.7	225 37 51.2	1 40 36.2	.8596
21	16 41 18.40	21 29 52.8	.2027567	22 43.1	227 13 44.4	1 35 37.7	.8597
22	16 46 38.20	21 41 59.0	.2035993	22 44.5	228 49 35.0	1 30 34.7	.8598
23	16 51 58.90	21 53 27.0	.2044298	22 45.9	230 25 23.0	1 25 27.6	.8599
24	16 57 20.46	22 4 16.2	.2052484	22 47.3	232 1 8.5	1 20 16.7	.8599
25	17 2 42.84	22 14 26.2	.2060552	22 48.8	233 36 51.3	1 15 2.2	.8600
26	17 8 6.00	22 23 56.4	.2068502	22 50.2	235 12 31.7	1 9 44.4	.8600
27	17 13 29.89	22 32 46.4	.2076337	22 51.7	236 48 9.6	1 4 23.2	.8601
28	17 18 54.47	22 40 55.8	.2084055	22 53.2	238 23 45.0	0 58 59.3	.8601
29	17 24 19.70	22 48 24.2	.2091658	22 54.7	239 59 18.1	0 53 3	.8602
30	17 29 45.53	22 55 11.2	.2099147	22 56.2	241 34 48.8	0 4	.8602
31	17 35 11.90	23 1 16.4	.2106522	22 57.7	243 10 17.3	0 4	.8603
32	17 40 38.76	S. 23 6 39.6	.2113782	22 59.2	244 45 43.5	N. 0 37	.8603

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ′ ″</i>	<i>″</i>	<i>″</i>	<i>″</i>
15 3 6.48	+12.42	0.38	S. 15 51 14.1	-56.0	5.4	5.6
15 8 5.07	12.47	0.38	16 13 25.1	55.0	5.4	5.6
15 13 4.84	12.52	0.37	16 35 11.1	53.9	5.4	5.6
15 18 5.82	12.57	0.37	16 56 31.4	52.8	5.4	5.6
15 23 8.01	12.62	0.37	17 17 25.2	51.7	5.4	5.6
15 28 11.42	12.67	0.37	17 37 51.7	50.5	5.4	5.6
15 33 16.02	12.72	0.37	17 57 50.0	49.3	5.3	5.5
15 38 21.84	12.77	0.37	18 17 19.3	48.1	5.3	5.5
15 43 28.86	12.82	0.37	18 36 19.1	46.9	5.3	5.5
15 48 37.08	12.87	0.37	18 54 48.5	45.6	5.3	5.5
15 53 46.46	12.92	0.37	19 12 46.6	44.3	5.3	5.5
15 58 57.01	12.97	0.37	19 30 12.9	42.9	5.3	5.5
16 4 8.72	13.01	0.37	19 47 6.6	41.5	5.3	5.5
16 9 21.56	13.06	0.37	20 3 26.9	40.1	5.3	5.5
16 14 35.50	13.10	0.37	20 19 13.2	38.7	5.2	5.4
16 19 50.53	13.15	0.37	20 34 24.9	37.3	5.2	5.4
16 25 6.63	13.19	0.37	20 49 1.3	35.8	5.2	5.4
16 30 23.77	13.24	0.37	21 3 1.7	34.3	5.2	5.4
16 35 41.91	13.28	0.37	21 16 25.6	32.7	5.2	5.4
16 41 1.03	13.32	0.37	21 29 12.3	31.2	5.2	5.4
16 46 21.09	13.36	0.37	21 41 21.3	29.6	5.2	5.4
16 51 42.07	13.40	0.37	21 52 51.9	28.0	5.2	5.4
16 57 3.90	13.43	0.37	22 3 43.7	26.3	5.2	5.4
17 2 26.56	13.46	0.36	22 13 56.3	24.7	5.1	5.3
17 7 50.01	13.49	0.36	22 23 29.1	23.0	5.1	5.3
17 13 14.19	13.52	0.36	22 32 21.7	21.3	5.1	5.3
17 18 39.07	13.55	0.36	22 40 33.5	19.6	5.1	5.3
17 24 4.60	13.58	0.36	22 48 4.3	17.9	5.1	5.3
74	13.60	0.36	22 54 53.6	16.2	5.1	5.3
	13.62	0.37	23 1 1.1	14.4	5.1	5.3
	13.6	0.37	23 6 26.5	12.7	5.1	5.3
		37	S. 23 11 9.8	-11.0	5.1	5.3

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	13 1 25.27	S. 4 22 52.9	0.1549076	18 15.9	159 45 41.0	N. 1 43 23.7	0.221
2	13 3 11.09	4 33 19.5	.1518338	18 13.7	160 11 55.6	1 43 4.9	.221
3	13 4 56.30	4 43 40.5	.1487344	18 11.5	160 38 10.6	1 42 45.8	.221
4	13 6 40.88	4 53 55.8	.1456094	18 9.3	161 4 25.9	1 42 26.2	.221
5	13 8 24.82	5 4 5.3	.1424588	18 7.1	161 30 41.6	1 42 6.3	.221
6	13 10 8.11	5 14 9.0	.1392822	18 4.9	161 56 57.7	1 41 46.1	.221
7	13 11 50.73	5 24 6.7	.1360794	18 2.6	162 23 14.0	1 41 25.5	.221
8	13 13 32.66	5 33 58.3	.1328503	18 0.4	162 49 30.8	1 41 4.5	.220
9	13 15 13.90	5 43 43.7	.1295947	17 58.2	163 15 47.9	1 40 43.2	.220
10	13 16 54.42	5 53 22.9	.1263125	17 55.9	163 42 5.5	1 40 21.5	.220
11	13 18 34.21	6 2 55.7	.1230034	17 53.6	164 8 23.5	1 39 59.5	.220
12	13 20 13.25	6 12 22.0	.1196673	17 51.3	164 34 42.0	1 39 37.1	.220
13	13 21 51.51	6 21 41.7	.1163042	17 49.0	165 1 0.9	1 39 14.3	.220
14	13 23 28.97	6 30 54.7	.1129139	17 46.7	165 27 20.4	1 38 51.2	.220
15	13 25 5.62	6 40 0.8	.1094965	17 44.4	165 53 40.3	1 38 27.7	.220
16	13 26 41.42	6 49 0.0	.1060518	17 42.0	166 20 0.8	1 38 3.9	.220
17	13 28 16.36	6 57 52.0	.1025797	17 39.6	166 46 21.9	1 37 39.7	.220
18	13 29 50.40	7 6 36.9	.0990805	17 37.2	167 12 43.5	1 37 15.2	.220
19	13 31 23.53	7 15 14.4	.0955541	17 34.8	167 39 5.7	1 36 50.3	.220
20	13 32 55.72	7 23 44.6	.0920007	17 32.4	168 5 28.5	1 36 25.1	.220
21	13 34 26.95	7 32 7.2	.0884205	17 30.0	168 31 51.9	1 35 59.5	.220
22	13 35 57.19	7 40 22.3	.0848135	17 27.5	168 58 15.9	1 35 33.6	.219
23	13 37 26.41	7 48 29.6	.0811799	17 25.0	169 24 40.7	1 35 7.3	.219
24	13 38 54.59	7 56 29.2	.0775199	17 22.5	169 51 6.0	1 34 40.7	.219
25	13 40 21.70	8 4 20.9	.0738337	17 20.1	170 17 32.1	1 34 13.7	.219
26	13 41 47.72	8 12 4.7	.0701215	17 17.6	170 43 58.9	1 33 46.4	.219
27	13 43 12.63	8 19 40.5	.0663834	17 15.1	171 10 26.5	1 33 18.7	.219
28	13 44 36.41	8 27 8.2	.0626197	17 12.5	171 36 54.8	1 32 50.7	.219
29	13 45 59.01	8 34 27.7	.0588308	17 9.9	172 3 23.8	1 32 22.4	.219
30	13 47 20.42	8 41 39.1	.0550166	17 7.3	172 29 53.7	1 31 53.7	.219
31	13 48 40.61	8 48 42.1	.0511773	17 4.7	172 56 24.4	1 31 24.6	.219
32	13 49 59.55	S. 8 55 36.8	0.0473131	17 2.0	173 22 55.9	N. 1 30 55.2	0.219

JANUARY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>"</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>
13 2 45.86	+ 4.40	0.21	S.4 30 50.2	-26.0	3.1	6.0
13 4 31.06	4.37	0.21	4 41 11.7	25.8	3.1	6.0
13 6 15.63	4.34	0.21	4 51 27.4	25.5	3.2	6.1
13 7 59.57	4.32	0.21	5 1 37.4	25.3	3.2	6.1
13 9 42.86	4.29	0.21	5 11 41.6	25.0	3.2	6.2
13 11 25.49	4.26	0.22	5 21 39.9	24.8	3.3	6.2
13 13 7.43	4.23	0.22	5 31 32.1	24.5	3.3	6.3
13 14 48.69	4.20	0.22	5 41 18.1	24.3	3.3	6.3
13 16 29.23	4.17	0.22	5 50 58.0	24.0	3.3	6.4
13 18 9.05	4.14	0.22	6 0 31.5	23.8	3.4	6.4
13 19 48.12	4.11	0.23	6 9 58.6	23.5	3.4	6.5
13 21 26.43	4.08	0.23	6 19 19.1	23.2	3.4	6.5
13 23 3.94	4.05	0.23	6 28 32.9	22.9	3.4	6.6
13 24 40.64	4.02	0.23	6 37 39.9	22.6	3.4	6.6
13 26 16.51	3.98	0.23	6 46 40.0	22.3	3.5	6.7
13 27 51.52	3.94	0.23	6 55 33.0	22.0	3.5	6.7
13 29 25.64	3.90	0.24	7 4 19.0	21.7	3.5	6.8
13 30 58.86	3.86	0.24	7 12 57.6	21.4	3.5	6.8
13 32 31.15	3.82	0.24	7 21 28.9	21.1	3.6	6.9
13 34 2.49	3.78	0.24	7 29 52.7	20.8	3.6	6.9
13 35 32.84	3.74	0.24	7 38 9.0	20.5	3.6	7.0
13 37 2.19	3.70	0.25	7 46 17.6	20.2	3.6	7.0
13 38 30.50	3.66	0.25	7 54 18.5	19.9	3.7	7.1
13 39 57.76	3.61	0.25	8 2 11.5	19.6	3.7	7.1
13 41 23.94	3.57	0.25	8 9 56.7	19.3	3.7	7.2
13 42 49.01	3.52	0.25	8 17 33.9	19.0	3.8	7.2
13 44 12.96	3.47	0.26	8 25 3.1	18.6	3.8	7.3
13 45 35.75	3.42	0.26	8 32 24.1	18.3	3.8	7.3
13 46 57.35	3.37	0.26	8 39 37.0	17.9	3.9	7.4
13 48 17.74	3.32	0.26	8 46 41.7	17.6	3.9	7.5
13 49 36.90	3.27	0.26	8 53 38.0	17.2	3.9	7.6
13 50 54.80	+ 3.22	0.26	S.9 0 25.9	-16.8	4.0	7.7

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	L Rad	
	Noon.	Noon.	Noon.		Noon.	Noon.		
	<i>h m s</i>	<i>° ' "</i>		<i>h m</i>	<i>° ' "</i>	<i>° ' "</i>		
1	13 49 59.55	S. 8 55 36.8	0.0473131	17 2.0	173 22 55.9	N. 1 30 55.2	0.21	
2	13 51 17.22	9 2 23.0	.0434241	16 59.3	173 49 28.3	1 30 25.5	.21	
3	13 52 33.58	9 9 0.6	.0395106	16 56.7	174 16 1.5	1 29 55.4	.21	
4	13 53 48.61	9 15 29.7	.0355729	16 54.0	174 42 35.7	1 29 25.0	.21	
5	13 55 2.27	9 21 50.0	.0316110	16 51.3	175 9 10.7	1 28 54.2	.21	
6	13 56 14.52	9 28 1.5	.0276251	16 48.5	175 35 46.7	1 28 23.1	.21	
7	13 57 25.34	9 34 4.0	.0236154	16 45.7	176 2 23.7	1 27 51.6	.21	
8	13 58 34.67	9 39 57.5	.0195823	16 42.9	176 29 1.6	1 27 19.8	.21	
9	13 59 42.50	9 45 41.8	.0155260	16 40.1	176 55 40.5	1 26 47.7	.21	
10	14 0 48.77	9 51 16.8	.0114467	16 37.2	177 22 20.5	1 26 15.3	.21	
11	14 1 53.45	9 56 42.4	.0073450	16 34.4	177 49 1.4	1 25 42.5	.21	
12	14 2 56.47	10 1 58.4	0.0032215	16 31.5	178 15 43.4	1 25 9.4	.21	
13	14 3 57.81	10 7 4.7	9.9990766	16 28.5	178 42 26.4	1 24 35.9	.21	
14	14 4 57.42	10 12 1.1	.9949111	16 25.5	179 9 10.6	1 24 2.1	.21	
15	14 5 55.26	10 16 47.6	.9907257	16 22.6	179 35 55.8	1 23 28.0	.21	
16	14 6 51.27	10 21 23.9	.9865208	16 19.6	180 2 42.1	1 22 53.6	.21	
17	14 7 45.40	10 25 50.0	.9822977	16 16.6	180 29 29.6	1 22 18.8	.21	
18	14 8 37.62	10 30 5.7	.9780573	16 13.5	180 56 18.3	1 21 43.7	.21	
19	14 9 27.88	10 34 11.0	.9738007	16 10.3	181 23 8.1	1 21 8.3	.21	
20	14 10 16.12	10 38 5.8	.9695289	16 7.2	181 49 59.1	1 20 32.6	.21	
21	14 11 2.32	10 41 50.0	.9652431	16 4.0	182 16 51.3	1 19 56.5	.21	
22	14 11 46.41	10 45 23.4	.9609448	16 0.7	182 43 44.7	1 19 20.2	.21	
23	14 12 28.36	10 48 46.1	.9566349	15 57.5	183 10 39.4	1 18 43.5	.21	
24	14 13 8.13	10 51 57.9	.9523147	15 54.2	183 37 35.4	1 18 6.5	.21	
25	14 13 45.67	10 54 58.7	.9479857	15 50.8	184 4 32.6	1 17 29.2	.21	
26	14 14 20.94	10 57 48.4	.9436491	15 47.4	184 31 31.2	1 16 51.6	.21	
27	14 14 53.91	11 0 27.0	.9393064	15 44.0	184 58 31.1	1 16 13.6	.21	
28	14 15 24.53	11 2 54.4	.9349594	15 40.5	185 25 32.3	1 15 35.4	.21	
29	14 15 52.77	S. 11 5 10.5	9.9306093	15 37.1	185 52 35.0			

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	13 50 54.80	+ 3.22	0.26	S. 9 0 25.9	-16.8	4.0	7.7
2	13 52 11.40	3.16	0.27	9 7 5.3	16.5	4.0	7.8
3	13 53 26.69	3.11	0.27	9 13 36.2	16.1	4.0	7.8
4	13 54 40.62	3.05	0.27	9 19 58.4	15.8	4.1	7.9
5	13 55 53.16	2.99	0.27	9 26 11.8	15.4	4.1	8.0
6	13 57 4.27	2.93	0.27	9 32 16.3	15.1	4.1	8.0
7	13 58 13.92	2.87	0.28	9 38 11.9	14.7	4.2	8.1
8	13 59 22.08	2.81	0.28	9 43 58.3	14.3	4.2	8.2
9	14 0 28.70	2.74	0.28	9 49 35.5	13.9	4.2	8.2
10	14 1 33.74	2.68	0.29	9 55 3.4	13.5	4.3	8.3
11	14 2 37.15	2.61	0.29	10 0 21.7	13.1	4.3	8.4
12	14 3 38.90	2.54	0.29	10 5 30.3	12.7	4.3	8.4
13	14 4 38.93	2.46	0.30	10 10 29.2	12.3	4.4	8.5
14	14 5 37.21	2.39	0.30	10 15 18.3	11.9	4.4	8.6
15	14 6 33.68	2.31	0.30	10 19 57.2	11.5	4.5	8.7
16	14 7 28.30	2.24	0.31	10 24 26.0	11.1	4.5	8.8
17	14 8 21.03	2.16	0.31	10 28 44.5	10.7	4.6	8.9
18	14 9 11.81	2.08	0.32	10 32 52.7	10.2	4.6	9.0
19	14 10 0.61	1.99	0.32	10 36 50.4	9.7	4.7	9.1
20	14 10 47.38	1.91	0.33	10 40 37.6	9.3	4.7	9.2
21	14 11 32.07	1.82	0.33	10 44 14.1	8.8	4.8	9.3
22	14 12 14.64	1.73	0.33	10 47 39.9	8.4	4.8	9.4
23	14 12 55.04	1.64	0.34	10 50 54.9	7.9	4.9	9.5
24	14 13 33.25	1.55	0.34	10 53 58.9	7.4	4.9	9.6
25	14 14 9.22	1.45	0.35	10 56 52.0	7.0	5.0	9.7
26	14 14 42.89	1.35	0.35	10 59 34.0	6.5	5.0	9.8
27	14 15 14.25	1.26	0.35	11 2 4.9	6.1	5.1	9.9
28	14 15 43.25	1.16	0.36	11 4 24.6	5.6	5.1	10.0
	14 16 9.83	+ 1.06	0.36	S. 11 6 32.9	- 5.1	5.2	10.1

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ' "</i>		<i>h m</i>	<i>° ' "</i>	<i>° ' "</i>	
1	14 15 52.77	S. 11 5 10.5	9.9306093	15 37.1	185 52 35.0	N. 1 14 56.8	0.214586
2	14 16 18.56	11 7 15.2	9.9262576	15 33.6	186 19 38.9	1 14 17.9	0.214398
3	14 16 41.89	11 9 8.3	9.9219061	15 30.0	186 46 44.3	1 13 38.7	0.214207
4	14 17 2.70	11 10 49.9	9.9175563	15 26.4	187 13 51.2	1 12 59.2	0.214014
5	14 17 20.95	11 12 19.7	9.9132103	15 22.8	187 40 59.4	1 12 19.4	0.213819
6	14 17 36.62	11 13 37.8	9.9088698	15 19.1	188 8 9.1	1 11 39.3	0.213621
7	14 17 49.64	11 14 43.9	9.9045368	15 15.4	188 35 20.3	1 10 58.9	0.213429
8	14 17 59.97	11 15 38.0	9.9002133	15 11.6	189 2 33.0	1 10 18.2	0.213219
9	14 18 7.56	11 16 19.8	8.959016	15 7.7	189 29 47.2	1 9 37.2	0.213013
10	14 18 12.38	11 16 49.4	8.916041	15 3.8	189 57 2.9	1 8 55.8	0.212808
11	14 18 14.39	11 17 6.5	8.873232	14 59.9	190 24 20.2	1 8 14.2	0.212599
12	14 18 13.54	11 17 11.1	8.830609	14 55.9	190 51 39.0	1 7 32.3	0.212387
13	14 18 9.80	11 17 3.0	8.788208	14 51.9	191 18 59.5	1 6 50.0	0.212174
14	14 18 3.12	11 16 42.1	8.746056	14 47.8	191 46 21.5	1 6 7.5	0.211958
15	14 17 53.48	11 16 8.4	8.704187	14 43.6	192 13 45.2	1 5 24.6	0.211739
16	14 17 40.86	11 15 21.7	8.662631	14 39.5	192 41 10.5	1 4 41.5	0.211519
17	14 17 25.22	11 14 22.1	8.621423	14 35.3	193 8 37.4	1 3 58.1	0.211296
18	14 17 6.54	11 13 9.4	8.580593	14 31.0	193 36 6.1	1 3 14.3	0.211071
19	14 16 44.82	11 11 43.6	8.540185	14 26.7	194 3 36.5	1 2 30.3	0.210844
20	14 16 20.04	11 10 4.9	8.500234	14 22.3	194 31 8.6	1 1 46.1	0.210614
21	14 15 52.20	11 8 13.2	8.460780	14 17.8	194 58 42.4	1 1 1.5	0.210382
22	14 15 21.32	11 6 8.6	8.421860	14 13.4	195 26 18.0	1 0 16.6	0.210148
23	14 14 47.39	11 3 51.2	8.383515	14 8.9	195 53 55.4	0 59 31.5	0.209912
24	14 14 10.43	11 1 21.1	8.345787	14 4.3	196 21 34.6	0 58 46.1	0.209674
25	14 13 30.46	10 58 38.5	8.308716	13 59.7	196 49 15.6	0 58 0.5	0.209433
26	14 12 47.53	10 55 43.4	8.272343	13 55.0	197 16 58.5	0 57 14.5	0.209191
27	14 12 1.67	10 52 36.0	8.236709	13 50.2	197 44 43.2	0 56 28.3	0.208946
28	14 11 12.92	10 49 16.6	8.201852	13 45.5	198 12 29.8	0 55 41.8	0.208699
29	14 10 21.33	10 45 45.3	8.167815	13 40.7	198 40 18.3	0 54 55.1	0.208449
30	14 9 26.97	10 42 2.4	8.134641	13 35.8	199 8 8.7	0 54 8.0	0.208188
31	14 8 29.88	10 38 8.1	8.102367	13 30.9	199 36 1.0	0 53 20.8	0.207920
32	14 7 30.14	S. 10 34 2.7	9.8071034	13 26.0	200 3 55.3	N. 0 52 33.2	0.207651

MARCH, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
1	^h 14 ^m 16 ^s 9·83	+ 1·06	0·36	S. 11° 6' 32" 9	- 5·1	5·2	10·1
2	14 16 33·97	0·95	0·36	11 8 29·8	4·6	5·3	10·2
3	14 16 55·62	0·85	0·37	11 10 15·2	4·1	5·3	10·3
4	14 17 14·74	0·74	0·37	11 11 49·0	3·6	5·4	10·4
5	14 17 31·30	0·64	0·37	11 13 11·1	3·1	5·4	10·5
6	14 17 45·25	0·53	0·38	11 14 21·4	2·6	5·5	10·6
7	14 17 56·53	0·42	0·38	11 15 19·7	2·1	5·5	10·7
8	14 18 5·11	0·30	0·38	11 16 5·9	1·6	5·6	10·8
9	14 18 10·94	0·19	0·39	11 16 40·0	1·1	5·6	10·9
10	14 18 13·98	+ 0·07	0·39	11 17 1·6	0·6	5·7	11·0
11	14 18 14·20	- 0·05	0·39	11 17 10·9	- 0·1	5·7	11·1
12	14 18 11·57	0·17	0·40	11 17 7·6	+ 0·4	5·8	11·2
13	14 18 6·02	0·29	0·40	11 16 51·6	0·9	5·8	11·3
14	14 17 57·54	0·41	0·40	11 16 22·8	1·4	5·9	11·4
15	14 17 46·10	0·54	0·41	11 15 41·3	1·9	5·9	11·5
16	14 17 31·67	0·66	0·41	11 14 46·8	2·4	6·0	11·6
17	14 17 14·23	0·79	0·42	11 13 39·4	2·9	6·1	11·7
18	14 16 53·77	0·92	0·42	11 12 19·0	3·5	6·1	11·8
19	14 16 30·27	1·04	0·42	11 10 45·7	4·0	6·2	11·9
20	14 16 3·74	1·17	0·43	11 8 59·5	4·6	6·2	12·0
21	14 15 34·17	1·30	0·43	11 7 0·5	5·2	6·3	12·2
22	14 15 1·58	1·42	0·43	11 4 48·7	5·7	6·3	12·3
23	14 14 25·96	1·54	0·44	11 2 24·2	6·2	6·4	12·4
24	14 13 47·36	1·67	0·44	10 59 47·3	6·7	6·5	12·5
25	14 13 5·79	1·79	0·44	10 56 57·9	7·2	6·5	12·6
26	14 12 21·29	1·91	0·45	10 53 56·2	7·7	6·6	12·7
27	14 11 33·90	2·03	0·45	10 50 42·5	8·2	6·7	12·8
28	14 10 43·68	2·15	0·46	10 47 16·9	8·7	6·7	12·9
29	14 9 50·69	2·27	0·46	10 43 39·7	9·2	6·8	13·0
30	14 8 54·96	2·38	0·46	10 39 51·1	9·7	6·8	13·1
31	14 7 56·24	2·49	0·47	10 35 51·3	10·2	6·9	13·3
32	1			S. 10 31 40·7	+ 10·7	6·9	13·4

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vec.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	14 7 30.14	S. 10 34 2.7	9.8071034	13 26.0	200 3 55.3	N. 0 52 33.2	0.207689
2	14 6 27.82	10 29 46.6	.8040679	13 21.0	200 31 51.6	0 51 45.4	.207431
3	14 5 23.00	10 25 20.0	.8011341	13 16.0	200 59 49.8	0 50 57.3	.207171
4	14 4 15.75	10 20 43.3	.7983058	13 11.0	201 27 50.1	0 50 8.9	.206910
5	14 3 6.19	10 15 57.0	.7955863	13 5.9	201 55 52.4	0 49 20.3	.206646
6	14 1 54.40	10 11 1.4	.7929799	13 0.7	202 23 56.7	0 48 31.3	.206380
7	14 0 40.48	10 5 56.9	.7904903	12 55.5	202 52 3.1	0 47 42.2	.206113
8	13 59 24.56	10 0 44.1	.7881209	12 50.3	203 20 11.5	0 46 52.8	.205841
9	13 58 6.73	9 55 23.5	.7858753	12 45.1	203 48 22.1	0 46 3.1	.205566
10	13 56 47.14	9 49 55.6	.7837564	12 39.8	204 16 34.7	0 45 13.2	.205290
11	13 55 25.88	9 44 20.8	.7817674	12 34.3	204 44 49.6	0 44 23.0	.205015
12	13 54 3.12	9 38 39.9	.7799119	12 29.2	205 13 6.5	0 43 32.6	.204741
13	13 52 39.02	9 32 53.7	.7781926	12 23.9	205 41 25.7	0 42 42.0	.204461
14	13 51 13.71	9 27 2.9	.7766121	12 18.5	206 9 47.0	0 41 51.1	.204175
15	13 49 47.35	9 21 8.1	.7751726	12 13.2	206 38 10.5	0 40 59.9	.203893
16	13 48 20.12	9 15 10.3	.7738762	12 7.8	207 6 36.3	0 40 8.6	.203609
17	13 46 52.15	9 9 10.0	.7727256	12 2.4	207 35 4.3	0 39 17.0	.203321
18	13 45 23.65	9 3 8.3	.7717220	11 57.0	208 3 34.6	0 38 25.3	.203032
19	13 43 54.80	8 57 6.2	.7708658	11 51.6	208 32 7.2	0 37 33.3	.202740
20	13 42 25.78	8 51 4.5	.7701577	11 46.2	209 0 42.0	0 36 41.0	.202447
21	13 40 56.76	8 45 4.0	.7695982	11 40.8	209 29 19.2	0 35 48.6	.202151
22	13 39 27.92	8 39 5.7	.7691873	11 35.4	209 57 58.7	0 34 55.9	.201854
23	13 37 59.47	8 33 10.7	.7689256	11 30.0	210 26 40.6	0 34 3.0	.201553
24	13 36 31.57	8 27 19.8	.7688118	11 24.6	210 55 24.9	0 33 9.9	.201254
25	13 35 4.40	8 21 33.8	.7688438	11 19.2	211 24 11.5	0 32 16.6	.200952
26	13 33 38.12	8 15 53.5	.7690206	11 13.9	211 53 0.5	0 31 23.1	.200647
27	13 32 12.91	8 10 19.8	.7693404	11 8.6	212 21 52.0	0 30 29.3	.200341
28	13 30 48.91	8 4 53.5	.7698010	11 3.2	212 50 45.9	0 29 35.4	.200033
29	13 29 26.33	7 59 35.4	.7704004	10 57.9	213 19 42.3	0 28 41.2	
30	13 28 5.28	7 54 26.3	.7711354	10 52.6	213 48 41.1	0 27 46.1	
31	13 26 45.90	S. 7 49 26.9	9.7720033	10 47.4	214 17 42.5	N. 0 26	

APRIL, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
14 6 55.57	— 2.59	0.47	S. 10 31 40.7	+10.7	6.9	13.4
14 5 52.06	2.69	0.47	10 27 19.5	11.1	6.9	13.4
14 4 46.10	2.79	0.47	10 22 48.2	11.5	7.0	13.5
14 3 37.82	2.89	0.48	10 18 7.2	11.9	7.0	13.6
14 2 27.28	2.98	0.48	10 13 16.8	12.3	7.1	13.7
14 1 14.59	3.07	0.48	10 8 17.4	12.7	7.1	13.8
13 59 59.84	3.15	0.49	10 3 9.5	13.0	7.2	13.9
13 58 43.16	3.23	0.49	9 57 53.6	13.3	7.2	14.0
13 57 24.66	3.30	0.50	9 52 30.2	13.6	7.3	14.1
13 56 4.46	3.37	0.50	9 46 59.7	13.9	7.4	14.2
13 54 42.71	3.43	0.50	9 41 22.9	14.1	7.4	14.2
13 53 19.54	3.49	0.50	9 35 40.5	14.4	7.4	14.3
13 51 55.09	3.54	0.50	9 29 53.0	14.6	7.4	14.3
13 50 29.54	3.58	0.50	9 24 1.4	14.7	7.5	14.4
13 49 3.04	3.62	0.50	9 18 6.3	14.9	7.5	14.5
13 47 35.74	3.65	0.50	9 12 8.4	15.0	7.5	14.5
13 46 7.82	3.67	0.50	9 6 8.7	15.0	7.5	14.5
13 44 39.46	3.69	0.50	9 0 8.1	15.0	7.5	14.5
13 43 10.83	3.69	0.50	8 54 7.4	15.0	7.5	14.5
13 41 42.12	3.69	0.50	8 48 7.6	15.0	7.5	14.5
13 40 13.50	3.69	0.51	8 42 9.4	14.9	7.6	14.6
13 38 45.15	3.67	0.51	8 36 13.8	14.7	7.6	14.6
13 37 17.28	3.65	0.51	8 30 22.0	14.6	7.6	14.6
13 35 50.04	3.62	0.51	8 24 34.6	14.4	7.6	14.6
13 34 23.60	3.58	0.51	8 18 52.5	14.1	7.6	14.6
13 32 58.12	3.54	0.51	8 13 16.4	13.9	7.6	14.6
13 31 33.77	3.49	0.51	8 7 47.3	13.6	7.6	14.6
13 30 10.70	3.43	0.51	8 2 25.9	13.2	7.6	14.6
13 28 49.11	3.37	0.51	7 57 13.1	12.8	7.5	14.5
7 29.09	3.30	0.50	7 52 9.4	12.4	7.5	14.5
78	— 3.22	0.50	S. 7 47 15.7	+12.0	7.5	14.5

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vel.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	13 26 45.90	S. 7 49 26.9	9.7720033	10 47.4	214 17 42.5	N. 0 26 52.3	0.19909
2	13 25 28.30	7 44 38.0	.7730012	10 42.2	214 46 46.3	0 25 57.6	.19878
3	13 24 12.63	7 40 0.1	.7741259	10 37.0	215 15 52.7	0 25 2.6	.19846
4	13 22 58.99	7 35 34.0	.7753741	10 31.9	215 45 1.7	0 24 7.5	.19814
5	13 21 47.51	7 31 20.5	.7767416	10 26.8	216 14 13.2	0 23 12.2	.19783
6	13 20 38.27	7 27 19.9	.7782255	10 21.7	216 43 27.3	0 22 16.6	.19750
7	13 19 31.38	7 23 32.5	.7798223	10 16.7	217 12 44.0	0 21 20.9	.19718
8	13 18 26.92	7 19 58.9	.7815284	10 11.8	217 42 3.3	0 20 25.1	.19686
9	13 17 24.99	7 16 39.5	.7833401	10 6.8	218 11 25.3	0 19 29.0	.19653
10	13 16 25.64	7 13 34.6	.7852536	10 1.9	218 40 49.9	0 18 32.8	.19620
11	13 15 28.96	7 10 44.3	.7872651	9 57.1	219 10 17.2	0 17 36.4	.19587
12	13 14 35.01	7 8 9.3	.7893708	9 52.3	219 39 47.1	0 16 39.8	.19554
13	13 13 43.86	7 5 49.9	.7915666	9 47.5	220 9 19.7	0 15 43.1	.19521
14	13 12 55.57	7 3 46.4	.7938488	9 42.8	220 38 55.1	0 14 46.2	.19488
15	13 12 10.19	7 1 59.1	.7962134	9 38.1	221 8 33.3	0 13 49.2	.19454
16	13 11 27.75	7 0 28.2	.7986565	9 33.5	221 38 14.1	0 12 52.0	.19421
17	13 10 48.32	6 59 14.2	.8011742	9 29.0	222 7 57.8	0 11 54.7	.19387
18	13 10 11.92	6 58 17.0	.8037623	9 24.5	222 37 44.2	0 10 57.2	.19353
19	13 9 38.56	6 57 36.9	.8064168	9 20.0	223 7 33.4	0 9 59.6	.19319
20	13 9 8.28	6 57 13.8	.8091338	9 15.6	223 37 25.4	0 9 1.9	.19285
21	13 8 41.09	6 57 7.8	.8119093	9 11.2	224 7 20.3	0 8 4.0	.19250
22	13 8 16.98	6 57 19.0	.8147396	9 6.9	224 37 18.0	0 7 6.0	.19216
23	13 7 55.99	6 57 47.4	.8176208	9 2.7	225 7 18.6	0 6 7.9	.19181
24	13 7 38.09	6 58 32.9	.8205489	8 58.5	225 37 22.0	0 5 9.7	.19146
25	13 7 23.28	6 59 35.3	.8235204	8 54.3	226 7 28.3	0 4 11.3	.19112
26	13 7 11.54	7 0 54.7	.8265318	8 50.2	226 37 37.6	0 3 12.9	.19077
27	13 7 2.86	7 2 30.8	.8295795	8 46.1	227 7 49.7	0 2 14.3	.19041
28	13 6 57.22	7 4 23.5	.8326603	8 42.1	227 38 4.8	0 1 15.6	.19006
29	13 6 54.60	7 6 32.7	.8357702	8 38.2	228 8 22.5	N. 0 0 16.0	
30	13 6 54.96	7 8 58.0	.8389070	8 34.3	228 38 43.9	S. 0 0 4.1	
31	13 6 58.26	7 11 39.3	.8420678	8 30.4	229 9 7.9	0 1 1.1	
32	13 7 4.47	S. 7 14 36.4	9.8452501	8 26.6	229 39 34.8	S. 0 2 1.1	

MAY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	["]	^s	[°] ['] ["]	["]	["]	["]
1	13 26 10.78	— 3.22	0.50	S. 7 47 15.7	+ 12.0	7.5	14.5
2	13 24 54.30	3.14	0.50	7 42 32.7	11.5	7.5	14.5
3	13 23 39.79	3.06	0.50	7 38 1.0	11.0	7.5	14.5
4	13 22 27.35	2.97	0.50	7 33 41.2	10.5	7.4	14.4
5	13 21 17.09	2.88	0.49	7 29 34.1	10.0	7.4	14.4
6	13 20 9.09	2.78	0.49	7 25 39.9	9.5	7.4	14.3
7	13 19 3.46	2.68	0.49	7 21 59.2	8.9	7.3	14.2
8	13 18 0.28	2.58	0.49	7 18 32.3	8.3	7.3	14.2
9	13 16 59.65	2.47	0.48	7 15 19.6	7.7	7.3	14.1
10	13 16 1.62	2.36	0.48	7 12 21.6	7.1	7.2	14.1
11	13 15 6.26	2.25	0.48	7 9 38.2	6.5	7.2	14.0
12	13 14 13.63	2.14	0.48	7 7 10.1	5.9	7.2	14.0
13	13 13 23.81	2.02	0.47	7 4 57.6	5.2	7.1	13.9
14	13 12 36.85	1.90	0.47	7 3 1.0	4.5	7.1	13.8
15	13 11 52.79	1.78	0.47	7 1 20.6	3.8	7.0	13.8
16	13 11 11.69	1.65	0.47	6 59 56.7	3.1	7.0	13.7
17	13 10 33.58	1.53	0.47	6 58 49.6	2.4	7.0	13.6
18	13 9 58.49	1.40	0.46	6 57 59.3	1.7	6.9	13.5
19	13 9 26.43	1.27	0.46	6 57 25.9	1.0	6.9	13.4
20	13 8 57.42	1.14	0.46	6 57 9.5	+ 0.3	6.9	13.3
21	13 8 31.50	1.02	0.46	6 57 10.1	— 0.4	6.8	13.2
22	13 8 8.65	0.89	0.45	6 57 27.8	1.1	6.8	13.2
23	13 7 48.89	0.76	0.45	6 58 2.6	1.8	6.8	13.1
24	13 7 32.20	0.63	0.45	6 58 54.2	2.5	6.7	13.0
25	13 7 18.57	0.50	0.45	7 0 2.8	3.2	6.7	12.9
26	13 7 7.99	0.38	0.44	7 1 28.1	3.9	6.6	12.8
27	13 7 0.45	0.25	0.44	7 3 10.0	4.6	6.6	12.7
		— 0.13	0.44	7 5 8.4	5.3	6.5	12.6
		0.00	0.43	7 7 23.1	6.0	6.5	12.5
			0.43	7 9 53.7	6.7	6.4	12.4
			0.43	7 12 40.2	7.3	6.4	12.3
			42	S. 7 15 42.3	— 7.9	6.3	12.2

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
1	^h 13 ^m 7 ^s 4' 47" S.	[°] 7 ['] 14 ["] 36' 4"	9 8452301	^h 8 ^m 26' 6"	[°] 229 ['] 39 ["] 34' 8"	[°] S. 0 ['] 2 ["] 40' 0"	0 188
2	13 7 13' 56"	7 17 49' 0"	8484513	8 22' 8"	230 10 4' 8"	0 3 39' 2"	188
3	13 7 25' 49"	7 21 16' 8"	8516691	8 19' 1"	230 40 37' 8"	0 4 38' 4"	187
4	13 7 40' 20"	7 24 59' 5"	8549008	8 15' 5"	231 11 13' 8"	0 5 37' 7"	187
5	13 7 57' 67"	7 28 56' 9"	8581449	8 11' 8"	231 41 52' 9"	0 6 37' 1"	187
6	13 8 17' 86"	7 33 8' 8"	8613994	8 8' 2"	232 12 35' 1"	0 7 36' 5"	186
7	13 8 40' 75"	7 37 34' 9"	8646624	8 4' 7"	232 43 20' 3"	0 8 36' 1"	186
8	13 9 6' 28"	7 42 15' 1"	8679321	8 1' 2"	233 14 8' 6"	0 9 35' 6"	186
9	13 9 34' 42"	7 47 9' 0"	8712069	7 57' 7"	233 45 0' 1"	0 10 35' 3"	185
10	13 10 5' 13"	7 52 16' 4"	8744857	7 54' 3"	234 15 54' 6"	0 11 34' 9"	185
11	13 10 38' 39"	7 57 37' 0"	8777666	7 50' 9"	234 46 52' 3"	0 12 34' 7"	185
12	13 11 14' 16"	8 3 10' 7"	8810481	7 47' 6"	235 17 53' 1"	0 13 34' 4"	184
13	13 11 52' 40"	8 8 57' 2"	8843287	7 44' 4"	235 48 57' 1"	0 14 34' 2"	184
14	13 12 33' 08"	8 14 56' 3"	8876071	7 41' 1"	236 20 4' 2"	0 15 34' 1"	183
15	13 13 16' 17"	8 21 7' 7"	8908819	7 37' 9"	236 51 14' 5"	0 16 33' 9"	183
16	13 14 1' 64"	8 27 31' 2"	8941522	7 34' 8"	237 22 28' 0"	0 17 33' 8"	183
17	13 14 49' 44"	8 34 6' 5"	8974164	7 31' 6"	237 53 44' 7"	0 18 33' 6"	182
18	13 15 39' 55"	8 40 53' 4"	9006733	7 28' 5"	238 25 4' 6"	0 19 33' 5"	182
19	13 16 31' 94"	8 47 51' 6"	9039216	7 25' 5"	238 56 27' 8"	0 20 33' 4"	182
20	13 17 26' 56"	8 55 0' 8"	9071602	7 22' 4"	239 27 54' 1"	0 21 33' 3"	181
21	13 18 23' 38"	9 2 20' 8"	9103881	7 19' 4"	239 59 23' 8"	0 22 33' 2"	181
22	13 19 22' 38"	9 9 51' 3"	9136041	7 16' 5"	240 30 56' 6"	0 23 33' 0"	180
23	13 20 23' 51"	9 17 32' 1"	9168075	7 13' 6"	241 2 32' 8"	0 24 32' 9"	180
24	13 21 26' 73"	9 25 22' 7"	9199973	7 10' 7"	241 34 12' 2"	0 25 32' 7"	180
25	13 22 32' 00"	9 33 22' 9"	9231728	7 7' 9"	242 5 54' 9"	0 26 32' 5"	179
26	13 23 39' 30"	9 41 32' 4"	9263333	7 5' 1"	242 37 40' 8"	0 27 32' 3"	179
27	13 24 48' 57"	9 49 51' 0"	9294781	7 2' 3"	243 9 30' 1"	0 28 32' 0"	179
28	13 25 59' 79"	9 58 18' 2"	9326063	6 59' 6"	243 41 22' 7"	0 29 31' 7"	178
29	13 27 12' 92"	10 6 53' 9"	9357179	6 56' 9"	244 13 18' 6"	0 30 31' 5"	
30	13 28 27' 92"	10 15 37' 6"	9388123	6 54' 2"	244 45 17' 8"	0 31 30	
31	13 29 44' 76"	S. 10 24 29' 2"	9418892	6 51' 6"	245 17 20' 4"	S. 0 2	

JUNE, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.			Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	h	m	s	s	s	° ' "	"	"	"
1	13	7	7.33	+ 0.36	0.42	S. 7 15 42.3	- 7.9	6.3	12.2
2	13	7	17.39	0.48	0.42	7 18 59.8	8.5	6.3	12.2
3	13	7	30.27	0.60	0.42	7 22 32.3	9.1	6.2	12.1
4	13	7	45.90	0.71	0.42	7 26 19.5	9.7	6.2	12.0
5	13	8	4.26	0.82	0.41	7 30 21.3	10.3	6.2	12.0
6	13	8	25.31	0.93	0.41	7 34 37.5	10.9	6.1	11.9
7	13	8	49.04	1.04	0.41	7 39 7.7	11.5	6.1	11.8
8	13	9	15.38	1.15	0.41	7 43 51.8	12.1	6.0	11.7
9	13	9	44.32	1.26	0.40	7 48 49.5	12.7	6.0	11.6
10	13	10	15.80	1.36	0.40	7 54 0.5	13.3	5.9	11.5
11	13	10	49.81	1.47	0.40	7 59 24.7	13.8	5.9	11.4
12	13	11	26.31	1.57	0.40	8 5 1.9	14.3	5.8	11.4
13	13	12	5.25	1.67	0.39	8 10 51.7	14.8	5.8	11.3
14	13	12	46.62	1.77	0.39	8 16 53.9	15.3	5.7	11.2
15	13	13	30.37	1.87	0.39	8 23 8.3	15.8	5.7	11.1
16	13	14	16.48	1.97	0.39	8 29 34.7	16.3	5.6	11.0
17	13	15	4.91	2.07	0.38	8 36 12.9	16.8	5.6	10.9
18	13	15	55.63	2.16	0.38	8 43 2.4	17.3	5.5	10.8
19	13	16	48.59	2.25	0.38	8 50 3.2	17.8	5.5	10.7
20	13	17	43.78	2.34	0.38	8 57 14.9	18.2	5.4	10.6
21	13	18	41.15	2.43	0.38	9 4 37.2	18.6	5.4	10.5
22	13	19	40.68	2.52	0.37	9 12 9.9	19.0	5.4	10.5
23	13	20	42.32	2.61	0.37	9 19 52.7	19.4	5.3	10.4
24	13	21	46.04	2.70	0.37	9 27 45.3	19.8	5.3	10.4
25	13	22	51.79	2.78	0.37	9 35 47.4	20.2	5.3	10.3
26	13	23	59.55	2.86	0.36	9 43 58.6	20.6	5.2	10.2
27	13	25	9.26	2.94	0.36	9 52 18.8	21.0	5.2	10.1
28	13	26	20.90	3.02	0.36	10 0 47.6	21.4	5.2	10.0
		13	27 34.44	3.10	0.35	10 9 24.6	21.8	5.1	10.0
		28	49.83	3.18	0.35	10 18 9.7	22.1	5.1	9.9
			7.05	+ 3.25	0.35	S. 10 27 2.5	- 22.4	5.1	9.8

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vel.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	13 29 44.76	S. 10 24 29.2	9.9418892	6 51.6	245 17 20.4	S. 0 32 30.4	0.17758
2	13 31 3.40	10 33 28.4	9.9449484	6 48.9	245 49 26.3	0 33 29.8	17720
3	13 32 23.82	10 42 34.8	9.9479895	6 46.3	246 21 35.5	0 34 29.2	17683
4	13 33 45.97	10 51 48.2	9.9510123	6 43.8	246 53 48.2	0 35 28.5	17643
5	13 35 9.84	11 1 8.3	9.9540169	6 41.2	247 26 4.1	0 36 27.7	17607
6	13 36 35.40	11 10 34.9	9.9570030	6 38.7	247 58 23.5	0 37 26.8	17570
7	13 38 2.61	11 20 7.8	9.9599706	6 36.3	248 30 46.2	0 38 25.9	17533
8	13 39 31.47	11 29 46.7	9.9629196	6 33.8	249 3 12.4	0 39 24.8	17494
9	13 41 1.95	11 39 31.4	9.9658500	6 31.4	249 35 41.9	0 40 23.6	17455
10	13 42 34.01	11 49 21.6	9.9687620	6 29.0	250 8 14.8	0 41 22.3	17419
11	13 44 7.65	11 59 17.1	9.9716551	6 26.6	250 40 51.2	0 42 20.9	17381
12	13 45 42.86	12 9 17.8	9.9745295	6 24.3	251 13 30.9	0 43 19.4	17344
13	13 47 19.63	12 19 23.5	9.9773848	6 22.0	251 46 14.1	0 44 17.7	17306
14	13 48 57.93	12 29 33.9	9.9802212	6 19.7	252 19 0.7	0 45 15.9	17268
15	13 50 37.76	12 39 48.8	9.9830383	6 17.4	252 51 50.7	0 46 13.9	17231
16	13 52 19.12	12 50 8.2	9.9858365	6 15.2	253 24 44.1	0 47 11.8	17193
17	13 54 1.98	13 0 31.7	9.9886152	6 12.9	253 57 40.9	0 48 9.5	17156
18	13 55 46.31	13 10 59.1	9.9913743	6 10.7	254 30 41.2	0 49 7.1	17118
19	13 57 32.10	13 21 30.1	9.9941138	6 8.6	255 3 45.0	0 50 4.5	17081
20	13 59 19.33	13 32 4.3	9.9968334	6 6.4	255 36 52.1	0 51 1.7	17044
21	14 1 7.97	13 42 41.7	9.9995331	6 4.3	256 10 2.7	0 51 58.7	17006
22	14 2 58.01	13 53 21.8	0.0022125	6 2.2	256 43 16.7	0 52 55.5	16969
23	14 4 49.42	14 4 4.5	0.0048719	6 0.1	257 16 34.2	0 53 52.1	16932
24	14 6 42.20	14 14 49.5	0.0075112	5 58.0	257 49 55.1	0 54 48.6	16895
25	14 8 36.32	14 25 36.6	0.0101305	5 56.0	258 23 19.4	0 55 44.8	16857
26	14 10 31.78	14 36 25.4	0.0127298	5 54.0	258 56 47.2	0 56 40.8	16820
27	14 12 28.54	14 47 15.8	0.0153093	5 52.0	259 30 18.4	0 57 36.6	16783
28	14 14 26.60	14 58 7.5	0.0178688	5 50.0	260 3 53.1	0 58 32.1	16746
29	14 16 25.94	15 9 0.2	0.0204087	5 48.0	260 37 31.2		
30	14 18 26.55	15 19 53.8	0.0229291	5 46.1	261 11 12		
31	14 20 28.41	15 30 48.0	0.0254303	5 44.2	261 44 5		
32	14 22 31.52	S. 15 41 42.6	0.0279124	5 42.3	262 18 4		

JULY, 1841.

At Transit over the Meridian of Greenwich.

parent Right Ascension,	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination,	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^m 0 7 ^a 05	+ 3 ^a 25	0 ^a 35	S. 10 ^o 27 ⁱ 2 ^u 5	-22 ^u 4	5 ^u 1	9 ^u 8
1 26 ^a 05	3 ^a 32	0 ^a 35	10 36 2 ^a 8	22 ^a 7	5 ^a 1	9 ^a 8
2 46 ^a 82	3 ^a 39	0 ^a 34	10 45 10 ^a 3	23 ^a 0	5 ^a 0	9 ^a 7
4 9 ^a 31	3 ^a 46	0 ^a 34	10 54 24 ^a 6	23 ^a 3	5 ^a 0	9 ^a 6
5 33 ^a 50	3 ^a 53	0 ^a 34	11 3 45 ^a 6	23 ^a 6	5 ^a 0	9 ^a 6
6 59 ^a 37	3 ^a 60	0 ^a 34	11 13 13 ^a 0	23 ^a 9	4 ^a 9	9 ^a 5
8 26 ^a 90	3 ^a 67	0 ^a 33	11 22 46 ^a 6	24 ^a 1	4 ^a 9	9 ^a 5
9 56 ^a 05	3 ^a 74	0 ^a 33	11 32 26 ^a 1	24 ^a 3	4 ^a 9	9 ^a 4
1 26 ^a 81	3 ^a 81	0 ^a 33	11 42 11 ^a 3	24 ^a 5	4 ^a 8	9 ^a 4
2 59 ^a 14	3 ^a 88	0 ^a 33	11 52 2 ^a 0	24 ^a 7	4 ^a 8	9 ^a 3
4 33 ^a 06	3 ^a 95	0 ^a 33	12 1 57 ^a 9	24 ^a 9	4 ^a 8	9 ^a 2
6 8 ^a 53	4 ^a 01	0 ^a 32	12 11 59 ^a 0	25 ^a 1	4 ^a 8	9 ^a 2
7 45 ^a 55	4 ^a 07	0 ^a 32	12 22 5 ^a 0	25 ^a 3	4 ^a 7	9 ^a 1
9 24 ^a 10	4 ^a 13	0 ^a 32	12 32 15 ^a 6	25 ^a 5	4 ^a 7	9 ^a 0
1 4 ^a 17	4 ^a 19	0 ^a 32	12 42 30 ^a 7	25 ^a 7	4 ^a 7	8 ^a 9
2 45 ^a 76	4 ^a 25	0 ^a 32	12 52 50 ^a 2	25 ^a 9	4 ^a 6	8 ^a 9
4 28 ^a 85	4 ^a 31	0 ^a 31	13 3 13 ^a 8	26 ^a 1	4 ^a 6	8 ^a 8
6 13 ^a 41	4 ^a 37	0 ^a 31	13 13 41 ^a 1	26 ^a 3	4 ^a 6	8 ^a 8
7 59 ^a 41	4 ^a 43	0 ^a 31	13 24 12 ^a 0	26 ^a 4	4 ^a 5	8 ^a 7
9 46 ^a 84	4 ^a 49	0 ^a 31	13 34 46 ^a 1	26 ^a 5	4 ^a 5	8 ^a 6
1 35 ^a 68	4 ^a 55	0 ^a 31	13 45 23 ^a 3	26 ^a 6	4 ^a 5	8 ^a 6
3 25 ^a 91	4 ^a 60	0 ^a 30	13 56 3 ^a 2	26 ^a 7	4 ^a 4	8 ^a 5
5 17 ^a 50	4 ^a 66	0 ^a 30	14 6 45 ^a 5	26 ^a 8	4 ^a 4	8 ^a 5
7 10 ^a 46	4 ^a 71	0 ^a 30	14 17 30 ^a 1	26 ^a 9	4 ^a 4	8 ^a 4
9 4 ^a 75	4 ^a 76	0 ^a 30	14 28 16 ^a 7	27 ^a 0	4 ^a 3	8 ^a 4
1 0 ^a 36	4 ^a 82	0 ^a 30	14 39 5 ^a 0	27 ^a 1	4 ^a 3	8 ^a 3
2 57 ^a 28	4 ^a 87	0 ^a 29	14 49 54 ^a 9	27 ^a 2	4 ^a 3	8 ^a 3
4 55 ^a 49	4 ^a 93	0 ^a 29	15 0 46 ^a 0	27 ^a 2	4 ^a 2	8 ^a 2
2 4 ^a 98	4 ^a 99	0 ^a 29	15 11 38 ^a 1	27 ^a 2	4 ^a 2	8 ^a 2
		0 ^a 29	15 22 31 ^a 0	27 ^a 2	4 ^a 2	8 ^a 1
		0 ^a 29	15 33 24 ^a 4	27 ^a 2	4 ^a 2	8 ^a 1
		28	S. 15 44 18 ^a 2	-27 ^a 2	4 ^a 1	8 ^a 0

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	
	h m s	° ' "		h m	° ' "	° ' "	
1	14 22 31.52	S. 15 41 42.6	0.0279124	5 42.3	262 18 46.1	S. 1 2 11.7	0.16
2	14 24 35.85	15 52 37.3	.0303757	5 40.5	262 52 38.0	1 3 5.9	.16
3	14 26 41.39	16 3 31.9	.0328203	5 38.7	263 26 33.3	1 3 59.9	.16
4	14 28 48.14	16 14 26.2	.0352466	5 36.9	264 0 32.0	1 4 53.6	.16
5	14 30 56.09	16 25 20.1	.0376548	5 35.1	264 34 34.1	1 5 47.0	.16
6	14 33 5.23	16 36 13.1	.0400453	5 33.3	265 8 39.7	1 6 40.1	.16
7	14 35 15.56	16 47 5.2	.0424182	5 31.5	265 42 48.6	1 7 32.9	.16
8	14 37 27.06	16 57 56.2	.0447738	5 29.8	266 17 1.0	1 8 25.4	.16
9	14 39 39.73	17 8 45.8	.0471127	5 28.1	266 51 16.7	1 9 17.5	.16
10	14 41 53.57	17 19 33.7	.0494347	5 26.4	267 25 35.9	1 10 9.4	.16
11	14 44 8.57	17 30 19.9	.0517399	5 24.7	267 59 58.4	1 11 0.9	.16
12	14 46 24.73	17 41 4.1	.0540284	5 23.0	268 34 24.4	1 11 52.0	.16
13	14 48 42.04	17 51 46.0	.0563004	5 21.3	269 8 53.7	1 12 42.8	.16
14	14 51 0.51	18 2 25.5	.0585559	5 19.7	269 43 26.3	1 13 33.2	.16
15	14 53 20.14	18 13 2.4	.0607950	5 18.1	270 18 2.3	1 14 23.2	.16
16	14 55 40.90	18 23 36.4	.0630177	5 16.5	270 52 41.7	1 15 12.9	.16
17	14 58 2.80	18 34 7.2	.0652240	5 14.9	271 27 24.4	1 16 2.2	.16
18	15 0 25.82	18 44 34.7	.0674141	5 13.4	272 2 10.4	1 16 51.1	.15
19	15 2 49.95	18 54 58.6	.0695880	5 11.8	272 36 59.7	1 17 39.5	.15
20	15 5 15.20	19 5 18.6	.0717458	5 10.3	273 11 52.4	1 18 27.6	.15
21	15 7 41.54	19 15 34.5	.0738873	5 8.8	273 46 48.3	1 19 15.3	.15
22	15 10 8.97	19 25 46.1	.0760130	5 7.3	274 21 47.5	1 20 2.6	.15
23	15 12 37.48	19 35 53.1	.0781228	5 5.9	274 56 50.0	1 20 49.4	.15
24	15 15 7.05	19 45 55.3	.0802170	5 4.5	275 31 55.8	1 21 35.8	.15
25	15 17 37.68	19 55 52.5	.0822957	5 3.0	276 7 4.8	1 22 21.8	.15
26	15 20 9.35	20 5 44.4	.0843592	5 1.6	276 42 17.0	1 23 7.3	.15
27	15 22 42.06	20 15 30.8	.0864075	5 0.2	277 17 32.5	1 23 52.4	.15
28	15 25 15.79	20 25 11.4		4 58.8	277 52 51.1	1 24 37.1	.15
29	15 27 50.54	20 34 46.1			278 12.9	1 25 21.2	.15
30	15 30 26.29	20 44 14.5				1 26 4.9	.15
31	15 33 3.05	20 53 36.5				1 26 48.2	.15
32	15 35 40.81	S. 21 2 51					

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
14 23 0·97	+ 5·16	0·28	S. 15 44 18·2	—27·2	4·1	8·0
14 25 5·43	5·21	0·28	15 55 12·1	27·2	4·1	8·0
14 27 11·10	5·26	0·28	16 6 5·8	27·2	4·1	7·9
14 29 17·97	5·31	0·28	16 16 59·2	27·2	4·1	7·9
14 31 26·04	5·36	0·28	16 27 52·1	27·2	4·0	7·8
14 33 35·29	5·41	0·28	16 38 44·2	27·1	4·0	7·8
14 35 45·73	5·46	0·28	16 49 35·2	27·1	4·0	7·8
14 37 57·34	5·51	0·27	17 0 25·1	27·0	4·0	7·7
14 40 10·12	5·56	0·27	17 11 13·5	27·0	3·9	7·7
14 42 24·06	5·61	0·27	17 22 0·3	26·9	3·9	7·6
14 44 39·17	5·65	0·27	17 32 45·3	26·8	3·9	7·6
14 46 55·43	5·70	0·27	17 43 28·2	26·7	3·9	7·6
14 49 12·84	5·75	0·27	17 54 8·9	26·6	3·9	7·5
14 51 31·41	5·80	0·27	18 4 47·1	26·5	3·8	7·5
14 53 51·13	5·85	0·27	18 15 22·7	26·4	3·8	7·4
14 56 11·99	5·90	0·27	18 25 55·3	26·3	3·8	7·4
14 58 33·98	5·94	0·26	18 36 24·7	26·2	3·8	7·4
15 0 57·10	5·99	0·26	18 46 50·8	26·1	3·8	7·3
15 3 21·32	6·04	0·26	18 57 13·2	25·9	3·8	7·3
15 5 46·65	6·08	0·26	19 7 31·7	25·7	3·7	7·2
15 8 13·07	6·12	0·26	19 17 46·1	25·5	3·7	7·2
15 10 40·58	6·17	0·26	19 27 56·1	25·3	3·7	7·2
15 13 9·16	6·21	0·26	19 38 1·5	25·1	3·7	7·1
15 15 38·81	6·25	0·26	19 48 2·0	24·9	3·7	7·1
15 18 9·51	6·29	0·26	19 57 57·5	24·7	3·7	7·1
15 20 41·25	6·34	0·26	20 7 47·7	24·5	3·7	7·0
15 23 14·02	6·38	0·25	20 17 32·3	24·3	3·6	7·0
15 25 47·82	6·43	0·25	20 27 11·2	24·1	3·6	7·0
15 28 22·63	6·47	0·25	20 36 44·0	23·8	3·6	6·9
15 30 58·45	6·51	0·25	20 46 10·7	23·5	3·6	6·9
15 33 35·27	6·55	0·25	20 55 30·8	23·2	3·6	6·9
13·08	+ 6·60	0·25	S. 21 4 44·3	—22·9	3·6	6·9

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	15 35 40.81	S. 21 2 51.9	0.0964330	4 53.5	280 14 37.4	S. 1 27 30.9	0.155
2	15 38 19.54	21 12 0.4	.0983970	4 52.2	280 50 11.8	1 28 13.1	.155
3	15 40 59.26	21 21 1.8	.1003479	4 50.9	281 25 49.3	1 28 54.8	.154
4	15 43 39.95	21 29 55.8	.1022860	4 49.7	282 1 29.9	1 29 36.0	.154
5	15 46 21.61	21 38 42.4	.1042115	4 48.5	282 37 13.6	1 30 16.7	.154
6	15 49 4.24	21 47 21.2	.1061247	4 47.2	283 13 0.3	1 30 56.9	.153
7	15 51 47.83	21 55 52.1	.1080256	4 46.0	283 48 50.0	1 31 36.5	.153
8	15 54 32.38	22 4 14.8	.1099148	4 44.8	284 24 42.7	1 32 15.5	.153
9	15 57 17.89	22 12 29.2	.1117921	4 43.6	285 0 38.4	1 32 54.0	.152
10	16 0 4.34	22 20 35.0	.1136576	4 42.5	285 36 37.1	1 33 32.0	.152
11	16 2 51.73	22 28 32.0	.1155115	4 41.4	286 12 38.7	1 34 9.3	.152
12	16 5 40.05	22 36 20.0	.1173539	4 40.2	286 48 43.2	1 34 46.1	.152
13	16 8 29.29	22 43 58.7	.1191847	4 39.1	287 24 50.6	1 35 22.3	.151
14	16 11 19.45	22 51 28.0	.1210042	4 38.0	288 1 0.9	1 35 58.0	.151
15	16 14 10.52	22 58 47.6	.1228123	4 36.9	288 37 14.1	1 36 33.0	.151
16	16 17 2.48	23 5 57.4	.1246090	4 35.8	289 13 30.0	1 37 7.4	.1508
17	16 19 55.33	23 12 57.0	.1263945	4 34.8	289 49 48.8	1 37 41.3	.1506
18	16 22 49.05	23 19 46.3	.1281688	4 33.7	290 26 10.4	1 38 14.5	.1503
19	16 25 43.63	23 26 25.1	.1299320	4 32.7	291 2 34.7	1 38 47.1	.1500
20	16 28 39.07	23 32 53.1	.1316839	4 31.7	291 39 1.8	1 39 19.1	.1497
21	16 31 35.33	23 39 10.2	.1334250	4 30.7	292 15 31.6	1 39 50.5	.1495
22	16 34 32.42	23 45 16.2	.1351554	4 29.7	292 52 4.0	1 40 21.2	.1492
23	16 37 30.30	23 51 10.7	.1368752	4 28.7	293 28 39.1	1 40 51.3	.1490
24	16 40 28.97	23 56 53.8	.1385848	4 27.7	294 5 16.8	1 41 20.8	.1487
25	16 43 28.40	24 2 25.1	.1402842	4 26.8	294 41 57.1	1 41 49.6	.1485
26	16 46 28.58	24 7 44.5	.1419738	4 25.9	295 18 40.0	1 42 17.7	.1482
27	16 49 29.50	24 12 51.8	.1436537	4 24.9	295 55 25.4	1 42 45.2	.1480
28	16 52 31.13	24 17 46.7	.1453242	4 24.0	296 32 13.2	1 43 12.0	.1477
29	16 55 33.48	24 22 29.2	.1469856	4 23.1	297 9 3.6	1 43 38.1	.1475
30	16 58 36.52	24 26 59.1	.1486379	4 22.2	297 45 56.3	1 44 3.6	.1473
31	17 1 40.23	S. 24 31 16.1	0.1502815	4 21.3	298 22 51.5	S. 1 44 28.3	0.1470

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	15 36 13·08	+ 6·60	0·25	S. 21 4 44·3	-22·9	3·6	6·9
2	15 38 51·87	6·64	0·25	21 13 50·9	22·6	3·6	6·9
3	15 41 31·64	6·68	0·25	21 22 50·3	22·3	3·5	6·8
4	15 44 12·39	6·72	0·25	21 31 42·4	22·0	3·5	6·8
5	15 46 54·11	6·76	0·25	21 40 27·0	21·7	3·5	6·8
6	15 49 36·79	6·80	0·25	21 49 3·8	21·4	3·5	6·8
7	15 52 20·43	6·84	0·25	21 57 32·6	21·1	3·5	6·7
8	15 55 5·04	6·88	0·25	22 5 53·3	20·8	3·5	6·7
9	15 57 50·59	6·92	0·25	22 14 5·6	20·4	3·5	6·7
10	16 0 37·09	6·96	0·25	22 22 9·3	20·0	3·4	6·6
11	16 3 24·53	7·00	0·25	22 30 4·1	19·6	3·4	6·6
12	16 6 12·89	7·04	0·24	22 37 49·9	19·2	3·4	6·6
13	16 9 2·19	7·08	0·24	22 45 26·5	18·8	3·4	6·6
14	16 11 52·40	7·12	0·24	22 52 53·6	18·4	3·4	6·5
15	16 14 43·51	7·16	0·24	23 0 11·0	18·0	3·4	6·5
16	16 17 35·52	7·19	0·24	23 7 18·5	17·6	3·4	6·5
17	16 20 28·41	7·22	0·24	23 14 15·9	17·2	3·3	6·4
18	16 23 22·17	7·25	0·24	23 21 2·9	16·8	3·3	6·4
19	16 26 16·78	7·28	0·24	23 27 39·4	16·4	3·3	6·4
20	16 29 12·25	7·32	0·24	23 34 5·1	15·9	3·3	6·3
21	16 32 8·55	7·36	0·24	23 40 19·9	15·4	3·3	6·3
22	16 35 5·66	7·39	0·23	23 46 23·4	14·9	3·3	6·3
23	16 38 3·57	7·43	0·23	23 52 15·6	14·5	3·3	6·3
24	16 41 2·26	7·46	0·23	23 57 56·3	14·0	3·3	6·3
25	16 44 1·72	7·49	0·23	24 3 25·2	13·5	3·2	6·2
26	16 47 1·92	7·52	0·23	24 8 42·2	13·0	3·2	6·2
27	16 50 2·85	7·55	0·23	24 13 47·0	12·5	3·2	6·2
28	16 53 4·51	7·58	0·23	24 18 39·5	12·0	3·2	6·2
29	16 56 6·87	7·61	0·23	24 23 19·5	11·5	3·2	6·1
30	16 59 9·92	7·64	0·23	24 27 46·9	10·9	3·2	6·1
31	17 2 13·64	+ 7·67	0·23	S. 24 32 1·4	-10·3	3·2	6·1

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.					
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.			
								Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]				
1	17 14 40.23	S. 24 31 16.1	0.1502815	4 21.3	298 22 51.5	S. 1 44 28.3	0.147			
2	17 4 44.61	24 35 20.1	.1519166	4 20.4	298 59 49.0	1 44 52.3	.146			
3	17 7 49.64	24 39 11.0	.1535434	4 19.5	299 36 48.9	1 45 15.6	.146			
4	17 10 55.32	24 42 48.6	.1551620	4 18.7	300 13 51.0	1 45 38.3	.146			
5	17 14 1.62	24 46 12.7	.1567727	4 17.9	300 50 55.4	1 46 0.2	.146			
6	17 17 8.54	24 49 23.2	.1583755	4 17.1	301 28 2.0	1 46 21.3	.145			
7	17 20 16.05	24 52 19.9	.1599706	4 16.3	302 5 10.8	1 46 41.8	.145			
8	17 23 24.16	24 55 2.8	.1615584	4 15.5	302 42 21.8	1 47 1.5	.145			
9	17 26 32.84	24 57 31.6	.1631387	4 14.7	303 19 34.9	1 47 20.5	.145			
10	17 29 42.07	24 59 46.2	.1647116	4 13.9	303 56 50.1	1 47 38.7	.145			
11	17 32 51.86	25 1 46.5	.1662772	4 13.1	304 34 7.3	1 47 56.2	.144			
12	17 36 2.16	25 3 32.4	.1678355	4 12.3	305 11 26.5	1 48 13.0	.144			
13	17 39 12.98	25 5 3.7	.1693866	4 11.6	305 48 47.7	1 48 29.0	.144			
14	17 42 24.30	25 6 20.3	.1709304	4 10.9	306 26 10.8	1 48 44.3	.144			
15	17 45 36.08	25 7 22.0	.1724671	4 10.2	307 3 35.8	1 48 58.7	.144			
16	17 48 48.32	25 8 8.8	.1739965	4 9.4	307 41 2.7	1 49 12.5	.144			
17	17 52 1.00	25 8 40.6	.1755188	4 8.7	308 18 31.4	1 49 25.4	.143			
18	17 55 14.08	25 8 57.3	.1770341	4 7.9	308 56 1.8	1 49 37.6	.143			
19	17 58 27.55	25 8 58.7	.1785424	4 7.2	309 33 34.0	1 49 49.1	.143			
20	18 1 41.39	25 8 44.8	.1800435	4 6.5	310 11 7.9	1 49 59.7	.143			
21	18 4 55.57	25 8 15.6	.1815379	4 5.8	310 48 43.4	1 50 9.6	.143			
22	18 8 10.07	25 7 30.9	.1830255	4 5.1	311 26 20.6	1 50 18.6	.143			
23	18 11 24.88	25 6 30.7	.1845066	4 4.4	312 3 59.3	1 50 27.0	.142			
24	18 14 39.96	25 5 14.9	.1859813	4 3.7	312 41 39.5	1 50 34.5	.142			
25	18 17 55.30	25 3 43.5	.1874497	4 3.0	313 19 21.3	1 50 41.2	.142			
26	18 21 10.87	25 1 56.5	.1889120	4 2.3	313 57 4.5	1 50 47.1	.142			
27	18 24 26.66	24 59 53.7	.1903685	4 1.6	314 34 49.1	1 50 52.3	.142			
28	18 27 42.65	24 57 35.3	.1918192	4 1.0	315 12 35.1	1 50 56.6	.142			
29	18 30 58.81	24 55 1.1	.1932645	4 0.3	315 50 22.4	1 51 0.2	.142			
30	18 34 15.13	24 52 11.1	.1947043	3 59.6	316 28 10.9	1 51 2.9	.141			
31	18 37 31.59	24 49 5.3	.1961390	3 59.0	317 6 0.7	1 51 4.9	.141			
32	18 40 48.17	S. 24 45 43.7	0.1975688	3 58.3	317 43 51.7	S. 1 51 6.0	0.141			

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^m ^s 2 13 ⁶⁴	+ 7 ⁶⁷	^s 0 ²³	S. 24 32 1 ⁴	— 10 ³	^{''} 3 ²	^{''} 6 ¹
5 18 ⁰³	7 ⁷⁰	0 ²³	24 36 2 ⁹	9 ⁷	3 ²	6 ¹
8 23 ⁰⁷	7 ⁷³	0 ²³	24 39 51 ²	9 ²	3 ²	6 ¹
11 28 ⁷⁵	7 ⁷⁶	0 ²³	24 43 26 ³	8 ⁶	3 ¹	6 ¹
14 35 ⁰⁶	7 ⁷⁹	0 ²³	24 46 47 ⁸	8 ¹	3 ¹	6 ⁰
17 41 ⁹⁸	7 ⁸²	0 ²³	24 49 55 ⁷	7 ⁵	3 ¹	6 ⁰
20 49 ⁴⁹	7 ⁸⁴	0 ²³	24 52 49 ⁹	7 ⁰	3 ¹	6 ⁰
23 57 ⁵⁹	7 ⁸⁶	0 ²³	24 55 30 ²	6 ⁴	3 ¹	6 ⁰
27 6 ²⁷	7 ⁸⁸	0 ²³	24 57 56 ⁵	5 ⁸	3 ¹	5 ⁹
30 15 ⁵⁰	7 ⁹⁰	0 ²³	25 0 8 ⁵	5 ²	3 ¹	5 ⁹
33 25 ²⁷	7 ⁹²	0 ²³	25 2 6 ³	4 ⁶	3 ¹	5 ⁹
36 35 ⁵⁷	7 ⁹⁴	0 ²²	25 3 49 ⁵	4 ⁰	3 ¹	5 ⁹
39 46 ³⁷	7 ⁹⁶	0 ²²	25 5 18 ²	3 ⁴	3 ⁰	5 ⁹
42 57 ⁶⁷	7 ⁹⁸	0 ²²	25 6 32 ¹	2 ⁸	3 ⁰	5 ⁸
46 9 ⁴⁴	8 ⁰⁰	0 ²²	25 7 31 ³	2 ²	3 ⁰	5 ⁸
49 21 ⁶⁵	8 ⁰²	0 ²²	25 8 15 ⁴	1 ⁶	3 ⁰	5 ⁸
52 34 ³⁰	8 ⁰⁴	0 ²²	25 8 44 ⁶	1 ⁰	3 ⁰	5 ⁸
55 47 ³⁵	8 ⁰⁶	0 ²²	25 8 58 ⁶	— 0 ³	3 ⁰	5 ⁷
59 0 ⁷⁹	8 ⁰⁷	0 ²²	25 8 57 ⁴	+ 0 ⁴	3 ⁰	5 ⁷
2 14 ⁵⁹	8 ⁰⁹	0 ²²	25 8 40 ⁹	1 ⁰	3 ⁰	5 ⁷
5 28 ⁷⁴	8 ¹⁰	0 ²²	25 8 9 ⁰	1 ⁶	3 ⁰	5 ⁷
8 43 ²⁰	8 ¹¹	0 ²²	25 7 21 ⁷	2 ²	2 ⁹	5 ⁷
11 57 ⁹⁶	8 ¹²	0 ²²	25 6 18 ⁹	2 ⁸	2 ⁹	5 ⁶
15 12 ⁹⁹	8 ¹³	0 ²²	25 5 0 ⁵	3 ⁴	2 ⁹	5 ⁶
18 28 ²⁸	8 ¹⁴	0 ²²	25 3 26 ⁵	4 ⁰	2 ⁹	5 ⁶
21 43 ⁸⁰	8 ¹⁵	0 ²²	25 1 36 ⁹	4 ⁷	2 ⁹	5 ⁶
24 59 ⁵³	8 ¹⁶	0 ²²	24 59 31 ⁶	5 ⁴	2 ⁹	5 ⁵
28 15 ⁴⁵	8 ¹⁷	0 ²²	24 57 10 ⁵	6 ¹	2 ⁹	5 ⁵
31 31 ⁵⁵	8 ¹⁸	0 ²²	24 54 33 ⁸	6 ⁸	2 ⁹	5 ⁵
34 47 ⁸¹	8 ¹⁹	0 ²²	24 51 41 ²	7 ⁵	2 ⁹	5 ⁵
38 4 ²⁰	8 ¹⁹	0 ²¹	24 48 32 ⁹	8 ²	2 ⁸	5 ⁵
41 20 ⁷¹	+ 8 ¹⁹	0 ²¹	S. 24 45 8 ⁸	+ 8 ⁸	2 ⁸	5 ⁴

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	18 40 48.17	S. 24 45 43.7	0.1975688	3 58.3	317 43 51.7	S. 1 51 6.0	0.141
2	18 44 4.85	24 42 6.3	.1989936	3 57.6	318 21 43.8	1 51 6.3	.141
3	18 47 21.63	24 38 13.1	.2004137	3 57.0	318 59 36.9	1 51 5.8	.141
4	18 50 38.48	24 34 4.0	.2018290	3 56.3	319 37 31.2	1 51 4.5	.141
5	18 53 55.38	24 29 39.0	.2032397	3 55.6	320 15 26.4	1 51 2.4	.141
6	18 57 12.33	24 24 58.3	.2046458	3 55.0	320 53 22.6	1 50 59.5	.141
7	19 0 29.30	24 20 1.7	.2060476	3 54.3	321 31 19.7	1 50 55.7	.141
8	19 3 46.29	24 14 49.4	.2074448	3 53.6	322 9 17.6	1 50 51.2	.141
9	19 7 3.26	24 9 21.2	.2088375	3 53.0	322 47 16.4	1 50 45.8	.141
10	19 10 20.21	24 3 37.4	.2102257	3 52.3	323 25 15.9	1 50 39.6	.140
11	19 13 37.11	23 57 37.8	.2116094	3 51.6	324 3 16.1	1 50 32.6	.140
12	19 16 53.96	23 51 22.7	.2129887	3 51.0	324 41 17.0	1 50 24.7	.140
13	19 20 10.73	23 44 52.0	.2143633	3 50.3	325 19 18.6	1 50 16.1	.140
14	19 23 27.41	23 38 5.7	.2157334	3 49.6	325 57 20.7	1 50 6.7	.140
15	19 26 43.97	23 31 4.1	.2170990	3 49.0	326 35 23.3	1 49 56.4	.140
16	19 30 0.41	23 23 47.1	.2184602	3 48.3	327 13 26.4	1 49 45.3	.140
17	19 33 16.69	23 16 14.8	.2198168	3 47.6	327 51 30.0	1 49 33.5	.140
18	19 36 32.81	23 8 27.4	.2211691	3 47.0	328 29 33.9	1 49 20.8	.140
19	19 39 48.75	23 0 24.9	.2225169	3 46.3	329 7 38.2	1 49 7.3	.140
20	19 43 4.48	22 52 7.4	.2238603	3 45.6	329 45 42.7	1 48 53.1	.140
21	19 46 20.00	22 43 35.1	.2251996	3 45.0	330 23 47.5	1 48 38.0	.140
22	19 49 35.29	22 34 48.0	.2265347	3 44.3	331 1 52.5	1 48 22.2	.140
23	19 52 50.33	22 25 46.4	.2278658	3 43.6	331 39 57.6	1 48 5.5	.140
24	19 56 5.11	22 16 30.2	.2291930	3 42.9	332 18 2.8	1 47 48.1	.140
25	19 59 19.61	22 6 59.7	.2305163	3 42.2	332 56 8.1	1 47 29.8	.140
26	20 2 33.81	21 57 14.9	.2318358	3 41.5	333 34 13.4	1 47 10.8	.140
27	20 5 47.72	21 47 16.1	.2331518	3 40.8	334 12 18.6	1 46 51.0	.140
28	20 9 1.32	21 37 3.2	.2344644	3 40.1	334 50 23.8	1 46 30.4	.140
29	20 12 14.60	21 26 36.5	.2357735	3 39.4	335 28 28.8	1 46 9.0	.140
30	20 15 27.55	21 15 56.1	.2370794	3 38.6	336 6 33.6	1 45 46.8	.140
31	20 18 40.16	S. 21 5 2.1	0.2383823	3 37.9	336 44 38.2	S. 1 45 23.8	0.140

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
20° 71'	+ 8' 19"	0° 21'	S. 24 45 8' 8"	+ 8' 8"	2' 8"	5' 4"
37° 32'	8' 19"	0° 21'	24 41 28' 9"	9' 5"	2' 8"	5' 4"
54° 02'	8' 19"	0° 21'	24 37 33' 1"	10' 2"	2' 8"	5' 4"
10° 79'	8' 19"	0° 21'	24 33 21' 6"	10' 9"	2' 8"	5' 4"
27° 61'	8' 19"	0° 21'	24 28 54' 2"	11' 6"	2' 8"	5' 4"
44° 47'	8' 19"	0° 21'	24 24 11' 0"	12' 3"	2' 8"	5' 4"
1° 36'	8' 19"	0° 21'	24 19 12' 0"	12' 9"	2' 8"	5' 3"
18° 25'	8' 19"	0° 21'	24 13 57' 2"	13' 6"	2' 8"	5' 3"
35° 13'	8' 19"	0° 21'	24 8 26' 7"	14' 2"	2' 7"	5' 3"
51° 99'	8' 20"	0° 21'	24 2 40' 5"	14' 8"	2' 7"	5' 3"
8° 79'	8' 20"	0° 20'	23 56 38' 6"	15' 4"	2' 7"	5' 3"
25° 54'	8' 20"	0° 20'	23 50 21' 1"	16' 1"	2' 7"	5' 3"
42° 21'	8' 20"	0° 20'	23 43 48' 1"	16' 7"	2' 7"	5' 3"
58° 78'	8' 19"	0° 20'	23 36 59' 5"	17' 4"	2' 7"	5' 3"
15° 23'	8' 19"	0° 20'	23 29 55' 6"	18' 0"	2' 7"	5' 2"
31° 55'	8' 19"	0° 20'	23 22 36' 4"	18' 7"	2' 7"	5' 2"
47° 71'	8' 18"	0° 20'	23 15 1' 9"	19' 3"	2' 7"	5' 2"
3° 71'	8' 17"	0° 20'	23 7 12' 3"	19' 9"	2' 7"	5' 2"
19° 53'	8' 16"	0° 20'	22 59 7' 7"	20' 5"	2' 7"	5' 2"
35° 14'	8' 15"	0° 20'	22 50 48' 1"	21' 1"	2' 7"	5' 2"
50° 53'	8' 14"	0° 19'	22 42 13' 7"	21' 7"	2' 6"	5' 1"
5° 69'	8' 13"	0° 19'	22 33 24' 6"	22' 3"	2' 6"	5' 1"
20° 59'	8' 12"	0° 19'	22 24 20' 9"	22' 9"	2' 6"	5' 1"
35° 24'	8' 11"	0° 19'	22 15 2' 8"	23' 5"	2' 6"	5' 1"
49° 60'	8' 10"	0° 19'	22 5 30' 4"	24' 1"	2' 6"	5' 1"
3° 66'	8' 09"	0° 19'	21 55 43' 7"	24' 7"	2' 6"	5' 1"
17° 42'	8' 08"	0° 19'	21 45 43' 0"	25' 3"	2' 6"	5' 0"
30° 88'	8' 07"	0° 19'	21 35 28' 4"	25' 9"	2' 6"	5' 0"
44° 01'	8' 05"	0° 19'	21 24 59' 9"	26' 5"	2' 6"	5' 0"
56° 81'	8' 03"	0° 18'	21 14 17' 7"	27' 1"	2' 6"	5' 0"
9° 27'	+ 8' 01"	0° 18'	S. 21 3 22' 0"	+ 27' 6"	2' 6"	5' 0"

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]		
1	20 18 40.16	S. 21 5 2.1	0.2383823	3 37.9	336 44 38.2	S. 1 45 23.8	0.140	
2	20 21 52.44	20 53 54.7	.2396822	3 37.2	337 22 42.5	1 45 0.1	.140	
3	20 25 4.36	20 42 34.0	.2409789	3 36.4	338 0 46.5	1 44 35.6	.140	
4	20 28 15.92	20 31 0.1	.2422726	3 35.6	338 38 50.1	1 44 10.3	.140	
5	20 31 27.13	20 19 13.3	.2435633	3 34.9	339 16 53.3	1 43 44.3	.140	
6	20 34 37.96	20 7 13.6	.2448509	3 34.1	339 54 56.0	1 43 17.5	.140	
7	20 37 48.42	19 55 1.2	.2461355	3 33.3	340 32 58.1	1 42 49.9	.140	
8	20 40 58.51	19 42 36.3	.2474170	3 32.6	341 10 59.7	1 42 21.6	.140	
9	20 44 8.21	19 29 59.0	.2486953	3 31.8	341 49 0.7	1 41 52.6	.140	
10	20 47 17.53	19 17 9.6	.2499705	3 31.0	342 27 1.0	1 41 22.8	.140	
11	20 50 26.44	19 4 8.1	.2512425	3 30.2	343 5 0.7	1 40 52.3	.140	
12	20 53 34.96	18 50 54.8	.2525113	3 29.4	343 42 59.5	1 40 21.1	.140	
13	20 56 43.08	18 37 29.8	.2537768	3 28.6	344 20 57.5	1 39 49.2	.140	
14	20 59 50.79	18 23 53.4	.2550389	3 27.8	344 58 54.7	1 39 16.5	.140	
15	21 2 58.08	18 10 5.7	.2562976	3 27.0	345 36 51.0	1 38 43.1	.140	
16	21 6 4.95	17 56 6.9	.2575530	3 26.2	346 14 46.3	1 38 9.1	.140	
17	21 9 11.39	17 41 57.3	.2588050	3 25.4	346 52 40.7	1 37 34.3	.140	
18	21 12 17.40	17 27 37.1	.2600536	3 24.5	347 30 34.0	1 36 58.8	.140	
19	21 15 22.97	17 13 6.4	.2612986	3 23.6	348 8 26.2	1 36 22.7	.140	
20	21 18 28.09	16 58 25.6	.2625403	3 22.8	348 46 17.3	1 35 45.8	.140	
21	21 21 32.78	16 43 34.6	.2637787	3 21.9	349 24 7.2	1 35 8.3	.140	
22	21 24 37.01	16 28 33.9	.2650138	3 21.0	350 1 55.9	1 34 30.1	.140	
23	21 27 40.80	16 13 23.6	.2662458	3 20.2	350 39 43.4	1 33 51.2	.140	
24	21 30 44.15	15 58 3.8	.2674747	3 19.3	351 17 29.5	1 33 11.7	.140	
25	21 33 47.04	15 42 34.9	.2687006	3 18.4	351 55 14.3	1 32 31.5	.140	
26	21 36 49.49	15 26 56.9	.2699235	3 17.5	352 32 57.7	1 31 50.7	.140	
27	21 39 51.50	15 11 10.1	.2711435	3 16.6	353 10 39.6	1 31 9.2	.140	
28	21 42 53.06	14 55 14.7	.2723607	3 15.7	353 48 20.1	1 30 27.1	.140	
29	21 45 54.18	14 39 10.9	.2735751	3 14.8	354 25 59.0	1 29 44.4	.140	
30	21 48 54.87	14 22 58.9	.2747867	3 13.8	355 3 36.4	1 29 1.0	.140	
31	21 51 55.12	14 6 38.9	.2759957	3 12.8	355 41 12.2	1 28 17.1	.140	
32	21 54 54.95	S. 13 50 11.0	0.2772020	3 11.9	356 18 46.3	S. 1 27 32.5	0.140	

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 19 9 27	+ 8 01	0 18	[°] ['] ["] S. 21 3 22 0	+ 27 6	2 6	5 0
22 21 39	7 99	0 18	20 52 12 9	28 2	2 6	5 0
25 33 16	7 98	0 18	20 40 50 6	28 7	2 6	5 0
28 44 58	7 96	0 18	20 29 15 1	29 3	2 5	5 0
31 55 63	7 95	0 18	20 17 26 7	29 8	2 5	4 9
35 6 30	7 93	0 18	20 5 25 5	30 4	2 5	4 9
38 16 61	7 92	0 18	19 53 11 6	30 9	2 5	4 9
41 26 54	7 90	0 18	19 40 45 3	31 4	2 5	4 9
44 36 08	7 89	0 18	19 28 6 6	31 9	2 5	4 9
47 45 24	7 87	0 18	19 15 15 8	32 4	2 5	4 9
50 54 00	7 86	0 18	19 2 13 0	32 9	2 5	4 8
54 2 35	7 84	0 17	18 48 58 4	33 4	2 5	4 8
57 10 31	7 83	0 17	18 35 32 2	33 8	2 5	4 8
0 17 85	7 81	0 17	18 21 54 6	34 3	2 5	4 8
3 24 97	7 80	0 17	18 8 5 8	34 7	2 5	4 8
6 31 67	7 78	0 17	17 54 5 9	35 2	2 5	4 8
9 37 95	7 76	0 17	17 39 55 3	35 6	2 5	4 8
12 43 78	7 74	0 17	17 25 34 1	36 1	2 4	4 8
15 49 18	7 72	0 17	17 11 2 5	36 5	2 4	4 7
18 54 13	7 70	0 17	16 56 20 7	37 0	2 4	4 7
21 58 64	7 68	0 17	16 41 29 0	37 4	2 4	4 7
25 2 70	7 66	0 16	16 26 27 4	37 8	2 4	4 7
28 6 32	7 64	0 16	16 11 16 3	38 2	2 4	4 7
31 9 49	7 62	0 16	15 55 55 8	38 5	2 4	4 7
34 12 21	7 60	0 16	15 40 26 2	38 9	2 4	4 6
37 14 48	7 58	0 16	15 24 47 6	39 2	2 4	4 6
40 16 31	7 56	0 16	15 9 0 2	39 6	2 4	4 6
43 17 70	7 54	0 16	14 53 4 3	39 9	2 4	4 6
46 18 65	7 52	0 16	14 37 0 0	40 3	2 4	4 6
49 19 16	7 50	0 16	14 20 47 5	40 6	2 4	4 6
52 19 24	7 49	0 16	14 4 27 0	41 0	2 3	4 5
55 18 88	+ 7 48	0 16	S. 13 47 58 8	+ 41 3	2 3	4 5

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian	Longitude.	Latitude.	Log. o Rad. V
	Noon.	Noon.	Noon.	Passage.	Noon.	Noon.	Noon
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Jan. 1	20 16.0	S. 22 8	0.4969	1 32.0	309 57	S. 3 12	0.35
5	20 24.7	21 45	0.4997	1 24.9	311 8	3 20	0.35
9	20 33.3	21 20	0.5022	1 17.8	312 19	3 28	0.35
13	20 41.9	20 54	0.5045	1 10.6	313 30	3 36	0.35
17	20 50.4	20 26	0.5065	1 3.4	314 41	3 43	0.35
21	20 58.9	19 57	0.5083	0 56.1	315 52	3 51	0.35
25	21 7.3	19 27	0.5098	0 48.8	317 2	3 58	0.35
29	21 15.7	18 55	0.5111	0 41.4	318 13	4 5	0.35
Feb. 2	21 24.0	18 22	0.5123	0 34.0	319 23	4 12	0.35
6	21 32.2	17 48	0.5132	0 26.5	320 33	4 19	0.35
10	21 40.4	17 13	0.5139	0 18.9	321 42	4 26	0.35
14	21 48.5	16 37	0.5144	0 11.2	322 52	4 33	0.35
18	21 56.6	16 1	0.5147	0 3.5	324 1	4 40	0.35
22	22 4.5	15 24	0.5148	* 23 53.6	325 10	4 47	0.35
26	22 12.4	14 46	0.5146	23 45.8	326 18	4 53	0.35
March 2	22 20.2	14 7	0.5142	23 37.8	327 27	4 59	0.35
6	22 28.0	13 28	0.5136	23 29.8	328 35	5 5	0.35
10	22 35.7	12 49	0.5128	23 21.7	329 43	5 11	0.35
14	22 43.3	12 9	0.5117	23 13.5	330 51	5 17	0.35
18	22 50.8	11 30	0.5104	23 5.3	331 59	5 23	0.35
22	22 58.3	10 50	0.5089	22 57.0	333 7	5 28	0.35
26	23 5.7	10 10	0.5072	22 48.6	334 14	5 33	0.35
30	23 13.0	9 30	0.5052	22 40.2	335 21	5 38	0.35
April 3	23 20.3	8 49	0.5030	22 31.7	336 28	5 43	0.35
7	23 27.5	8 9	0.5006	22 23.2	337 35	5 48	0.35
11	23 34.6	7 29	0.4980	22 14.6	338 41	5 53	0.35
15	23 41.7	6 50	0.4951	22 5.9	339 47	5 57	0.35
19	23 48.7	6 11	0.4920	21 57.1	340 53	6 2	0.35
23	23 55.6	5 33	0.4887	21 48.2	341 59	6 6	0.35
27	0 2.4	4 55	0.4851	21 39.3	343 5	6 10	0.35
May 1	0 9.2	4 18	0.4813	21 30.3	344 10	6 14	0.35
5	0 15.9	S. 3 41	0.4773	21 21.2	345 16	S. 6 18	0.35

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
y 5	0 15.9	S. 3 41	0.4773	21 21.2	345 16	S. 6 18	0.3735
9	0 22.5	3 5	0.4730	21 12.0	346 21	6 22	0.3742
13	0 29.0	2 30	0.4685	21 2.7	347 26	6 26	0.3750
17	0 35.5	1 56	0.4638	20 53.4	348 30	6 29	0.3757
21	0 41.8	1 23	0.4588	20 44.0	349 35	6 32	0.3764
25	0 48.1	0 50	0.4536	20 34.5	350 39	6 35	0.3771
29	0 54.3	S. 0 19	0.4481	20 24.9	351 43	6 38	0.3778
te 2	1 0.4	N. 0 11	0.4424	20 15.2	352 47	6 41	0.3785
6	1 6.3	0 40	0.4364	20 5.3	353 51	6 44	0.3792
10	1 12.2	1 8	0.4302	19 55.4	354 54	6 46	0.3799
14	1 18.0	1 35	0.4237	19 45.3	355 57	6 49	0.3806
18	1 23.6	2 0	0.4170	19 35.2	357 0	6 51	0.3813
22	1 29.1	2 24	0.4100	19 24.9	358 3	6 53	0.3820
26	1 34.4	2 46	0.4027	19 14.4	359 6	6 55	0.3826
30	1 39.6	3 7	0.3952	19 3.8	0 9	6 57	0.3833
y 4	1 44.6	3 26	0.3874	18 53.1	1 11	6 59	0.3840
8	1 49.4	3 43	0.3794	18 42.2	2 13	7 1	0.3847
12	1 54.1	3 58	0.3712	18 31.1	3 15	7 2	0.3853
16	1 58.6	4 11	0.3628	18 19.8	4 17	7 3	0.3860
20	2 2.8	4 23	0.3541	18 8.2	5 18	7 4	0.3866
24	2 6.8	4 33	0.3452	17 56.4	6 20	7 5	0.3873
28	2 10.6	4 41	0.3361	17 44.4	7 21	7 6	0.3879
s. 1	2 14.1	4 47	0.3268	17 32.1	8 22	7 7	0.3885
5	2 17.3	4 51	0.3174	17 19.5	9 23	7 7	0.3891
9	2 20.2	4 53	0.3078	17 6.6	10 24	7 8	0.3897
13	2 22.7	4 52	0.2982	16 53.3	11 24	7 8	0.3903
17	2 24.9	4 49	0.2885	16 39.7	12 25	7 8	0.3909
21	2 26.7	4 45	0.2787	16 25.7	13 25	7 8	0.3915
25	2 28.1	4 38	0.2690	16 11.3	14 25	7 8	0.3921
29	2 29.1	4 29	0.2593	15 56.5	15 25	7 8	0.3927
t. 2	2 29.7	4 18	0.2498	15 41.3	16 25	7 8	0.3933
6	2 29.8	N. 4 4	0.2406	15 25.6	17 24	S. 7 7	0.3938

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vel.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Sept. 6	2 29 '8	N.4 4	0 '2406	15 25 '6	17 24	S.7 7	0 '393
10	2 29 '5	3 48	0 '2317	15 9 '5	18 24	7 7	0 '394
14	2 28 '8	3 31	0 '2233	14 53 '0	19 23	7 6	0 '394
18	2 27 '6	3 12	0 '2154	14 36 '0	20 22	7 5	0 '394
22	2 25 '9	2 53	0 '2081	14 18 '5	21 21	7 4	0 '394
26	2 23 '7	2 33	0 '2016	14 0 '6	22 20	7 3	0 '394
30	2 21 '1	2 12	0 '1959	13 42 '2	23 18	7 2	0 '394
Oct. 4	2 18 '1	1 50	0 '1912	13 23 '5	24 17	7 1	0 '394
8	2 14 '9	1 28	0 '1875	13 4 '5	25 15	6 59	0 '394
12	2 11 '4	1 7	0 '1850	12 45 '3	26 14	6 58	0 '394
16	2 7 '7	0 46	0 '1836	12 25 '9	27 12	6 56	0 '394
20	2 3 '9	0 27	0 '1834	12 6 '4	28 10	6 54	0 '394
24	2 0 '1	N.0 10	0 '1845	11 46 '9	29 8	6 52	0 '394
28	1 56 '2	S.0 5	0 '1868	11 27 '3	30 6	6 50	0 '40
Nov. 1	1 52 '3	0 18	0 '1903	11 7 '7	31 4	6 48	0 '40
5	1 48 '6	0 28	0 '1950	10 48 '3	32 2	6 46	0 '40
9	1 45 '2	0 35	0 '2009	10 29 '2	32 59	6 44	0 '40
13	1 42 '1	0 39	0 '2078	10 10 '5	33 57	6 42	0 '40
17	1 39 '3	0 40	0 '2155	9 52 '0	34 54	6 39	0 '40
21	1 36 '9	0 38	0 '2240	9 33 '9	35 51	6 37	0 '40
25	1 34 '9	0 32	0 '2331	9 16 '3	36 48	6 34	0 '40
29	1 33 '3	0 23	0 '2428	8 59 '0	37 45	6 31	0 '40
Dec. 3	1 32 '2	S.0 12	0 '2530	8 42 '1	38 42	6 28	0 '40
7	1 31 '5	N.0 2	0 '2635	8 25 '7	39 39	6 25	0 '40
11	1 31 '2	0 19	0 '2743	8 9 '8	40 35	6 22	0 '40
15	1 31 '4	0 38	0 '2852	7 54 '3	41 32	6 19	0 '40
19	1 32 '0	0 59	0 '2963	7 39 '2	42 28	6 15	0 '40
23	1 33 '0	1 22	0 '3074	7 24 '5	43 24	6 12	0 '40
27	1 34 '4	1 47	0 '3184	7 10 '2	44 20	6 8	0 '40
31	1 36 '2	2 14	0 '3293	6 56 '3	45 16	6 5	0 '40
35	1 38 '2	N.2 42	0 '3402	6 42 '6	46 12	S.6 1	0 '40

EPHEMERIS OF VESTA FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor. Par.
341.	h m s	s	° ' "	"	"
September 21	2 26 4.64	— 1.17	N. 2 56 55.1	— 12.6	5.3
22	2 25 35.74	1.24	2 51 50.7	12.8	5.3
23	2 25 5.23	1.30	2 46 42.5	12.9	5.3
24	2 24 33.14	1.37	2 41 30.7	13.1	5.4
25	2 23 59.49	1.43	2 36 15.9	13.2	5.4
26	2 23 24.30	1.50	2 30 58.1	13.3	5.4
27	2 22 47.61	1.56	2 25 37.6	13.4	5.4
28	2 22 9.45	1.62	2 20 14.8	13.5	5.4
29	2 21 29.84	1.68	2 14 50.1	13.6	5.5
30	2 20 48.83	1.74	2 9 23.7	13.6	5.5
October 1	2 20 6.46	1.79	2 3 56.1	13.7	5.5
2	2 19 22.76	1.85	1 58 27.6	13.7	5.5
3	2 18 37.76	1.90	1 52 58.5	13.7	5.5
4	2 17 51.51	1.95	1 47 29.1	13.7	5.5
5	2 17 4.07	2.00	1 42 0.0	13.7	5.6
6	2 16 15.47	2.05	1 36 31.4	13.6	5.6
7	2 15 25.76	2.09	1 31 3.9	13.6	5.6
8	2 14 35.01	2.14	1 25 37.7	13.6	5.6
9	2 13 43.25	2.18	1 20 13.5	13.5	5.6
10	2 12 50.54	2.21	1 14 51.5	13.4	5.6
11	2 11 56.97	2.25	1 9 32.2	13.2	5.6
12	2 11 2.58	2.28	1 4 16.0	13.1	5.6
13	2 10 7.43	2.31	0 59 3.4	12.9	5.6
14	2 9 11.61	2.34	0 53 54.8	12.8	5.6
15	2 8 15.16	2.36	0 48 50.7	12.6	5.6
16	2 7 18.19	2.38	0 43 51		5.6
17	2 6 20.74	2.40	0 38 57		5.6
18	2 5 22.90	2.42	0 34		5
19	2 4 24.74	2.43	0 29 2		!
20	2 3 26.33	2.44	0 24 5		
21	2 2 27.75	— 2.44	N. 0 20		

EPHEMERIS OF VESTA FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor. Par.
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
October 21	2 2 27.75	- 2.44	N.0 20 23.2	-11.0	5.6
22	2 1 29.06	2.45	0 16 1.9	10.7	5.6
23	2 0 30.35	2.45	0 11 48.2	10.4	5.6
24	1 59 31.68	2.44	0 7 42.6	10.0	5.6
25	1 58 33.13	2.44	N.0 3 45.2	9.7	5.6
26	1 57 34.77	2.43	S.0 0 3.6	9.3	5.6
27	1 56 36.66	2.42	0 3 43.5	9.0	5.6
28	1 55 38.88	2.40	0 7 14.3	8.6	5.6
29	1 54 41.47	2.38	0 10 35.6	8.2	5.6
30	1 53 44.53	2.36	0 13 47.2	7.8	5.6
31	1 52 48.09	2.34	0 16 48.9	7.4	5.5
November 1	1 51 52.24	2.31	0 19 40.4	6.9	5.5
2	1 50 57.02	2.29	0 22 21.6	6.5	5.5
3	1 50 2.51	2.26	0 24 52.2	6.1	5.5
4	1 49 8.77	2.22	0 27 12.1	5.6	5.5
5	1 48 15.84	2.19	0 29 21.0	5.1	5.5
6	1 47 23.80	2.15	0 31 18.7	4.7	5.5
7	1 46 32.70	2.11	0 33 5.2	4.2	5.4
8	1 45 42.58	2.07	0 34 40.2	3.7	5.4
9	1 44 53.52	2.02	0 36 3.6	3.2	5.4
10	1 44 5.56	1.97	0 37 15.3	2.7	5.4
11	1 43 18.74	1.93	0 38 15.3	2.3	5.4
12	1 42 33.12	1.88	0 39 3.4	1.8	5.3
13	1 41 48.74	1.82	0 39 39.7	1.3	5.3
14	1 41 5.65	1.77	0 40 4.0	0.8	5.3
15	1 40 23.89	1.71	0 40 16.3	- 0.3	5.3
16	1 39 43.49	1.65	0 40 16.7	+ 0.2	5.2
17	1 39 4.50	1.59	0 40 5.1	0.7	5.2
18	1 38 26.94	1.53	0 39 41.5	1.2	5.2
19	1 37 50.84	1.47	0 39 6.1	1.7	5.2
20	1 37 16.24	- 1.41	S.0 38 18.8	+ 2.2	5.2

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
n. 1	12 16.4	S. 3 40	0.3891	17 30.0	164 13	S. 1 33	0.4361
5	12 18.8	3 44	0.3809	17 16.7	165 1	1 22	0.4378
9	12 20.8	3 45	0.3726	17 2.9	165 49	1 11	0.4394
13	12 22.4	3 43	0.3643	16 48.6	166 37	1 0	0.4411
17	12 23.6	3 38	0.3560	16 34.1	167 25	0 49	0.4427
21	12 24.5	3 30	0.3478	16 19.2	168 12	0 38	0.4443
25	12 25.0	3 20	0.3397	16 3.9	168 59	0 27	0.4459
29	12 25.2	3 7	0.3318	15 48.4	169 46	0 16	0.4475
Feb. 2	12 25.0	2 51	0.3242	15 32.4	170 32	S. 0 6	0.4490
6	12 24.4	2 31	0.3170	15 16.0	171 18	N. 0 5	0.4506
10	12 23.4	2 9	0.3102	14 59.1	172 3	0 15	0.4521
14	12 22.0	1 43	0.3040	14 42.0	172 49	0 26	0.4536
18	12 20.3	1 15	0.2984	14 24.5	173 34	0 36	0.4551
22	12 18.2	0 45	0.2936	14 6.6	174 18	0 47	0.4566
26	12 15.9	S. 0 12	0.2896	13 48.6	175 2	0 57	0.4580
March 2	12 13.3	N. 0 22	0.2864	13 30.3	175 46	1 7	0.4595
6	12 10.5	0 58	0.2842	13 11.7	176 30	1 17	0.4609
10	12 7.5	1 35	0.2830	12 52.9	177 13	1 27	0.4623
14	12 4.4	2 12	0.2828	12 34.1	177 56	1 37	0.4637
18	12 1.2	2 49	0.2838	12 15.2	178 39	1 47	0.4651
22	11 57.9	3 26	0.2859	11 56.2	179 22	1 57	0.4664
26	11 54.7	4 2	0.2891	11 37.4	180 4	2 7	0.4678
30	11 51.7	4 36	0.2932	11 18.7	180 46	2 16	0.4691
April 3	11 48.9	5 8	0.2983	11 0.2	181 28	2 26	0.4704
7	11 46.2	5 38	0.3043	10 41.9	182 10		
11	11 43.8	6 5	0.3111	10 23.8	182 55		
15	11 41.7	6 30	0.3186	10 6.0	183 3		
19	11 39.9	6 52	0.3268	9 48.5	184		
23	11 38.3	7 10	0.3355	9 31.2	185		
27	11 37.1	7 26	0.3447	9 14.3	1		
May 1	11 36.3	7 39	0.3542	8 57.8			
5	11 35.8	N. 7 49	0.3639	8 41.7			

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Ve.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.							
May 5	^h 11 ^m 35 ^s 8	[°] N. 7 ['] 49	0 '3639	^h 8 ^m 41 ^s 7	[°] 186 56	[°] N. 3 39	0 '480
9	11 35 6	7 57	0 '3739	8 25 8	187 36	3 48	0 '481
13	11 35 8	8 2	0 '3840	8 10 2	188 16	3 57	0 '482
17	11 36 2	8 4	0 '3941	7 54 9	188 55	4 5	0 '483
21	11 37 0	8 3	0 '4043	7 39 9	189 34	4 14	0 '484
25	11 38 0	8 0	0 '4146	7 25 3	190 13	4 22	0 '485
29	11 39 4	7 54	0 '4247	7 11 0	190 52	4 31	0 '487
June 2	11 41 0	7 47	0 '4347	6 56 9	191 31	4 39	0 '488
6	11 42 9	7 38	0 '4445	6 43 1	192 10	4 48	0 '489
10	11 45 1	7 27	0 '4542	6 29 5	192 48	4 56	0 '490
14	11 47 5	7 14	0 '4637	6 16 1	193 26	5 4	0 '491
18	11 50 0	7 0	0 '4730	6 3 0	194 4	5 12	0 '492
22	11 52 8	6 44	0 '4821	5 50 0	194 42	5 20	0 '493
26	11 55 7	6 28	0 '4910	5 37 2	195 20	5 28	0 '494
30	11 58 8	6 10	0 '4996	5 24 6	195 58	5 36	0 '495
July 4	12 2 1	5 51	0 '5080	5 12 2	196 35	5 44	0 '496
8	12 5 6	5 30	0 '5161	4 59 9	197 13	5 52	0 '497
12	12 9 2	5 9	0 '5239	4 47 8	197 50	5 59	0 '498
16	12 12 9	4 46	0 '5315	4 35 8	198 27	6 7	0 '499
20	12 16 8	4 23	0 '5388	4 23 9	199 4	6 14	0 '500
24	12 20 8	3 59	0 '5458	4 12 1	199 41	6 22	0 '501
28	12 24 8	3 35	0 '5526	4 0 4	200 18	6 29	0 '502
Aug. 1	12 29 0	3 10	0 '5590	3 48 8	200 55	6 36	0 '503
5	12 33 2	2 45	0 '5652	3 37 3	201 31	6 43	0 '504
9	12 37 6	2 19	0 '5711	3 25 9	202 7	6 50	0 '505
13	12 42 0	1 53	0 '5767	3 14 6	202 43	6 57	0 '506
17	12 46 5	1 26	0 '5820	3 3 4	203 19	7 4	0 '507
21	12 51 1	0 59	0 '5871	2 52 2	203 55	7 11	0 '508
25	12 55 8	0 32	0 '5919	2 41 1	204 31	7 18	0 '509
29	13 0 5	N. 0 5	0 '5964	2 30 1	205 7	7 25	0 '510
Sept. 2	13 5 3	S. 0 22	0 '6006	2 19 1	205 43	7 32	0 '511
6	13 10 1	S. 0 50	0 '6046	2 8 2	206 18	N. 7 38	0 '512

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Sept. 6	13 10.1	S. 0 50	0.6046	2 8.2	206 18	N. 7 38	0.5090
10	13 15.0	1 18	0.6082	1 57.4	206 54	7 45	0.5097
14	13 20.0	1 45	0.6116	1 46.6	207 29	7 51	0.5104
18	13 25.0	2 12	0.6147	1 35.9	208 5	7 58	0.5111
22	13 30.0	2 39	0.6175	1 25.2	208 40	8 4	0.5117
26	13 35.1	3 6	0.6200	1 14.5	209 15	8 10	0.5123
30	13 40.2	3 32	0.6223	1 3.9	209 50	8 16	0.5129
Oct. 4	13 45.4	3 58	0.6243	0 53.3	210 25	8 23	0.5135
8	13 50.6	4 24	0.6260	0 42.8	211 0	8 29	0.5141
12	13 55.8	4 49	0.6274	0 32.2	211 35	8 35	0.5147
16	14 1.0	5 14	0.6286	0 21.7	212 9	8 41	0.5152
20	14 6.2	5 38	0.6295	0 11.1	212 44	8 47	0.5157
24	14 11.5	6 2	0.6301	$\left\{ \begin{smallmatrix} 0 \\ 23 \end{smallmatrix} \begin{smallmatrix} 0.6 \\ 58.0 \end{smallmatrix} \right\}$	213 19	8 53	0.5162
28	14 16.8	6 25	0.6304	23 47.6	213 54	8 59	0.5167
Nov. 1	14 22.1	6 47	0.6304	23 37.2	214 28	9 4	0.5172
5	14 27.5	7 9	0.6301	23 26.8	215 3	9 10	0.5177
9	14 32.8	7 30	0.6296	23 16.4	215 37	9 15	0.5181
13	14 38.1	7 50	0.6288	23 5.9	216 11	9 21	0.5186
17	14 43.4	8 10	0.6277	22 55.4	216 45	9 26	0.5190
21	14 48.7	8 29	0.6263	22 44.9	217 20	9 32	0.5194
25	14 53.9	8 46	0.6247	22 34.5	217 54	9 37	0.5198
29	14 59.2	9 2	0.6228	22 24.0	218 28	9 42	0.5202
Dec. 3	15 4.4	9 18	0.6205	22 13.4	219 2	9 47	0.5206
7	15 9.6	9 32	0.6179	22 2.9	219 36	9 52	0.5210
11	15 14.7	9 45	0.6151	21 52.2	220 10	9 57	0.5213
15	15 19.8	9 57	0.6120	21 41.5	?	?	0.5216
19	15 24.9	10 9	0.6086	21 30.9	?	7	0.5219
23	15 29.9	10 19	0.6049	21 20.1			0.5
27	15 34.8	10 28	0.6009	21 9.2			0.5
31	15 39.6	10 36	0.5966	20 58.2			0.5
35	15 44.4	S. 10 42	0.5921	20 47.3			0.5

EPHEMERIS OF JUNO FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Hor. Par.</i>
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
February 17	12 20 29.15	— 1.16	S. 1 18 14.9	+ 18.1	4.3
18	12 20 0.76	1.21	1 10 55.6	18.5	4.3
19	12 19 31.14	1.26	1 3 27.2	18.9	4.3
20	12 19 0.31	1.31	0 55 50.1	19.2	4.3
21	12 18 28.32	1.36	0 48 4.2	19.6	4.3
22	12 17 55.18	1.40	0 40 10.2	19.9	4.4
23	12 17 20.93	1.45	0 32 8.3	20.2	4.4
24	12 16 45.61	1.49	0 23 58.3	20.6	4.4
25	12 16 9.25	1.54	0 15 42.1	20.8	4.4
26	12 15 31.90	1.58	S. 0 7 18.6	21.1	4.4
27	12 14 53.60	1.62	N. 0 1 11.3	21.4	4.4
28	12 14 14.38	1.65	0 9 47.4	21.6	4.4
March 1	12 13 34.29	1.69	0 18 29.1	21.9	4.4
2	12 12 53.36	1.72	0 27 16.2	22.1	4.4
3	12 12 11.66	1.75	0 36 8.2	22.3	4.4
4	12 11 29.20	1.78	0 45 4.7	22.4	4.4
5	12 10 46.06	1.81	0 54 5.3	22.6	4.5
6	12 10 2.26	1.84	1 3 9.5	22.7	4.5
7	12 9 17.85	1.86	1 12 17.0	22.9	4.5
8	12 8 32.89	1.88	1 21 27.3	23.0	4.5
9	12 7 47.42	1.90	1 30 39.9	23.0	4.5
10	12 7 1.48	1.92	1 39 54.5	23.1	4.5
11	12 6 15.12	1.94	1 49 10.5	23.2	4.5
12	12 5 28.40	1.95	1 58 27.5	23.2	4.5
13	12 4 41.36	1.97	2 7 45.1	23.2	4.5
14	12 3 54.06	1.98	2 17 2.7	23.2	4.5
15	12 3 6.56	1.98	2 26 20.0	23.2	4.5
16	12 2 18.91	1.99	2 35 36.4	23.2	4.5
17	12 1 31.15	1.99	2 44 51.4	23.1	4.5
18	12 0 43.34	1.99	2 54 4.6	23.0	4.5
8 19	11 59 55.55	— 1.99	N. 3 15.5	+ 22.9	4.5

EPHEMERIS OF JUNO FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Hor. Par.</i>
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
March 19	11 59 55.55	- 1.99	N.3 3 15.5	+ 22.9	4.5
20	11 59 7.82	1.99	3 12 23.5	22.8	4.4
21	11 58 20.20	1.98	3 21 28.3	22.6	4.4
22	11 57 32.75	1.97	3 30 29.4	22.5	4.4
23	11 56 45.54	1.96	3 39 26.2	22.3	4.4
24	11 55 58.60	1.95	3 48 18.5	22.1	4.4
25	11 55 11.99	1.93	3 57 5.5	21.8	4.4
26	11 54 25.77	1.92	4 5 47.1	21.6	4.4
27	11 53 40.00	1.90	4 14 22.9	21.4	4.4
28	11 52 54.71	1.88	4 22 52.5	21.1	4.4
29	11 52 9.96	1.85	4 31 15.4	20.8	4.4
30	11 51 25.79	1.83	4 39 31.2	20.5	4.4
31	11 50 42.24	1.80	4 47 39.8	20.2	4.4
April 1	11 49 59.35	1.77	4 55 40.6	19.9	4.3
2	11 49 17.17	1.74	5 3 33.5	19.5	4.3
3	11 48 35.73	1.71	5 11 18.2	19.2	4.3
4	11 47 55.06	1.68	5 18 54.4	18.8	4.3
5	11 47 15.21	1.64	5 26 21.8	18.5	4.3
6	11 46 36.21	1.61	5 33 40.3	18.1	4.3
7	11 45 58.09	1.57	5 40 49.6	17.7	4.3
8	11 45 20.88	1.53	5 47 49.5	17.3	4.3
9	11 44 44.63	1.49	5 54 39.7	16.9	4.2
10	11 44 9.35	1.45	6 1 20.2	16.5	4.2
11	11 43 35.07	1.41	6 7 50.7	16.1	4.2
12	11 43 1.82	1.36	6 14 11.1	15.6	4.2
13	11 42 29.63	1.32	6 20 21.1	15.2	4.1
14	11 41 58.51	1.27	6 26 20.7	14.8	4.1
15	11 41 28.49	1.23	6 32 9.7		4.1
16	11 40 59.61	1.18	6 37 48.1		
17	11 40 31.87	1.13	6 43 15.6		
18	11 40 5.29	- 1.08	N.6 48 32.2	-	

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.	Passage.	Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Jan. 1	20 5.1	S. 0 2	0.6288	1 21.1	310 27	N. 24 54	0.5359
5	20 10.3	S. 0 1	0.6310	1 10.6	310 59	24 40	0.5358
9	20 15.6	N. 0 1	0.6329	1 0.1	311 31	24 26	0.5357
13	20 20.8	0 4	0.6345	0 49.6	312 3	24 12	0.5356
17	20 26.1	0 9	0.6359	0 39.1	312 35	23 58	0.5355
21	20 31.4	0 15	0.6370	0 28.6	313 7	23 44	0.5354
25	20 36.6	0 23	0.6378	0 18.1	313 39	23 30	0.5352
29	20 41.9	0 32	0.6383	0 7.6	314 11	23 16	0.5351
Feb. 2	20 47.1	0 41	0.6386	* 23 54.5	314 43	23 1	0.5349
6	20 52.3	0 52	0.6386	23 44.0	315 15	22 46	0.5347
10	20 57.4	1 4	0.6383	23 33.4	315 46	22 31	0.5345
14	21 2.6	1 17	0.6378	23 22.8	316 18	22 16	0.5343
18	21 7.7	1 30	0.6370	23 12.1	316 49	22 1	0.5341
22	21 12.8	1 44	0.6359	23 1.4	317 20	21 46	0.5339
26	21 17.9	2 0	0.6346	22 50.7	317 51	21 31	0.5337
March 2	21 22.9	2 17	0.6329	22 39.9	318 22	21 16	0.5335
6	21 27.8	2 34	0.6310	22 29.1	318 53	21 0	0.5332
10	21 32.7	2 52	0.6288	22 18.2	319 24	20 45	0.5329
14	21 37.5	3 10	0.6263	22 7.2	319 55	20 29	0.5326
18	21 42.2	3 28	0.6235	21 56.2	320 26	20 13	0.5323
22	21 46.9	3 47	0.6204	21 45.1	320 56	19 57	0.5320
26	21 51.5	4 6	0.6171	21 33.9	321 27	19 41	0.5317
30	21 56.0	4 26	0.6135	21 22.7	321 58	19 25	0.5313
April 3	22 0.4	4 45	0.6096	21 11.4	322 29	19 9	0.5310
7	22 4.8	5 5	0.6055	21 0.0	322 59	18 53	0.5306
11	22 9.1	5 25	0.6010	20 48.5	323 30	18 37	0.5302
15	22 13.3	5 45	0.5963	20 36.9	324 0	18 20	0.5298
19	22 17.4	6 5	0.5913	20 25.2	324 31	18 3	0.5294
23	22 21.3	6 25	0.5860	20 13.4	325 1	17 46	0.5290
27	22 25.1	6 44	0.5804	20 1.4	325 32	17 29	0.5286
May 1	22 28.8	7 3	0.5746	19 49.3	326 2	17 12	0.5282
5	22 32.4	N. 7 22	0.5685	19 37.0	326 32	N. 16 55	0.5278

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
May 5	22 32.4	N. 7 22	0.5685	19 37.0	326 32	N. 16 53	0.5278
9	22 35.8	7 40	0.5621	19 24.7	327 2	16 38	0.5273
13	22 39.1	7 58	0.5554	19 12.2	327 33	16 21	0.5268
17	22 42.2	8 15	0.5485	18 59.6	328 3	16 3	0.5263
21	22 45.2	8 31	0.5413	18 46.8	328 33	15 46	0.5258
25	22 48.0	8 46	0.5339	18 33.8	329 3	15 28	0.5253
29	22 50.6	9 0	0.5263	18 20.6	329 33	15 10	0.5248
June 2	22 53.1	9 13	0.5184	18 7.3	330 3	14 52	0.5242
6	22 55.3	9 25	0.5103	17 53.7	330 33	14 34	0.5237
10	22 57.3	9 35	0.5020	17 40.0	331 3	14 16	0.5231
14	22 59.1	9 43	0.4935	17 26.0	331 33	13 58	0.5226
18	23 0.6	9 50	0.4849	17 11.7	332 3	13 40	0.5220
22	23 1.9	9 55	0.4761	16 57.2	332 33	13 22	0.5214
26	23 2.9	9 58	0.4672	16 42.5	333 4	13 3	0.5208
30	23 3.7	9 59	0.4582	16 27.5	333 34	12 45	0.5202
July 4	23 4.2	9 57	0.4491	16 12.3	334 4	12 26	0.5195
8	23 4.5	9 52	0.4401	15 56.8	334 34	12 7	0.5189
12	23 4.4	9 45	0.4311	15 40.9	335 4	11 48	0.5182
16	23 4.0	9 35	0.4222	15 24.7	335 34	11 29	0.5175
20	23 3.3	9 21	0.4134	15 8.3	336 4	11 9	0.5168
24	23 2.3	9 4	0.4049	14 51.5	336 34	10 50	0.5161
28	23 1.0	8 45	0.3967	14 34.5	337 5	10 30	0.5154
Aug. 1	22 59.4	8 21	0.3888	14 17.1	337 35	10 11	0.5147
5	22 57.6	7 54	0.3814	13 59.5	338 6	9 51	0.5139
9	22 55.5	7 24	0.3745	13 41.7	338 36	9 32	0.5132
13	22 53.2	6 50	0.3681	13 23.6	339 7	9 12	0.5124
17	22 50.6	6 12	0.3624	13 5.3	339 37	8 52	0.5116
21	22 47.9	5 31	0.3576	12 46.8	340 8	8 32	0.5108
25	22 45.0	4 47	0.3535	12 28.2	340 38	8 12	0.5100
29	22 42.0	4 1	0.3503	12 9.5	341 9	7 51	0.5092
Sept. 2	22 39.0	3 12	0.3480	11 50.8	341 40	7 31	0.5084
6	22 36.0	N. 2 22	0.3467	11 32.1	342 11	N. 7 10	0.507

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.	Passage.	Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Sept. 6	22 36.0	N. 2 22	0.3467	11 32.1	342 11	N. 7 10	0.5075
10	22 33.0	1 30	0.3463	11 13.4	342 42	6 49	0.5066
14	22 30.1	N. 0 38	0.3469	10 54.8	343 13	6 28	0.5057
18	22 27.3	S. 0 14	0.3485	10 36.4	343 44	6 7	0.5048
22	22 24.7	1 6	0.3511	10 18.1	344 15	5 46	0.5039
26	22 22.3	1 58	0.3545	10 0.0	344 46	5 25	0.5030
30	22 20.2	2 49	0.3587	9 42.2	345 18	5 3	0.5020
Oct. 4	22 18.4	3 38	0.3637	9 24.7	345 49	4 42	0.5011
8	22 16.8	4 24	0.3693	9 7.4	346 21	4 20	0.5001
12	22 15.6	5 8	0.3755	8 50.5	346 53	3 59	0.4992
16	22 14.7	5 50	0.3823	8 33.9	347 25	3 37	0.4982
20	22 14.2	6 29	0.3895	8 17.7	347 57	3 15	0.4972
24	22 14.0	7 5	0.3969	8 1.8	348 29	2 53	0.4962
28	22 14.1	7 38	0.4047	7 46.2	349 1	2 31	0.4952
Nov. 1	22 14.6	8 8	0.4127	7 31.0	349 33	2 9	0.4941
5	22 15.4	8 35	0.4208	7 16.1	350 5	1 47	0.4931
9	22 16.6	8 59	0.4289	7 1.6	350 38	1 24	0.4920
13	22 18.1	9 20	0.4371	6 47.3	351 11	1 2	0.4909
17	22 19.8	9 39	0.4453	6 33.4	351 44	0 39	0.4898
21	22 21.9	9 55	0.4534	6 19.8	352 17	N. 0 16	0.4887
25	22 24.2	10 8	0.4613	6 6.4	352 50	S. 0 7	0.4876
29	22 26.8	10 18	0.4691	5 53.3	353 23	0 30	0.4865
Dec. 3	22 29.7	10 26	0.4768	5 40.4	353 57	0 53	0.4853
7	22 32.8	10 32	0.4843	5 27.8	354 31	1 16	0.4842
11	22 36.1	10 35	0.4915	5 15.4	355 5	1 40	0.4830
15	22 39.6	10 36	0.4985	5 3.2	355 39	2 3	0.4818
19	22 43.4	10 36	0.5052	4 51.2	356 14	2 27	0.4806
23	22 47.3	10 34	0.5117	4 39.4	356 48	2 51	0.4794
27	22 51.4	10 30	0.5179	4 27.7	357 23	3 15	0.4781
31	22 55.6	10 24	0.5238	4 16.2	357 58	3 39	0.4769
35	23 0.0	S. 10 17	0.5294	4 4.8	358 33	S. 4 3	0.4756

EPHEMERIS OF PALLAS FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor. Par.
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
August 5	22 57 21.44	— 1.26	N. 7 50 7.2	— 18.3	3.6
6	22 56 50.83	1.30	7 42 41.5	18.8	3.6
7	22 56 19.27	1.33	7 35 2.5	19.4	3.6
8	22 55 46.79	1.37	7 27 10.3	20.0	3.6
9	22 55 13.41	1.41	7 19 4.8	20.5	3.6
10	22 54 39.13	1.45	7 10 46.3	21.0	3.6
11	22 54 4.00	1.48	7 2 14.7	21.6	3.6
12	22 53 28.03	1.52	6 53 30.2	22.1	3.7
13	22 52 51.26	1.55	6 44 32.8	22.7	3.7
14	22 52 13.71	1.58	6 35 22.8	23.2	3.7
15	22 51 35.41	1.61	6 26 0.2	23.7	3.7
16	22 50 56.38	1.64	6 16 25.2	24.2	3.7
17	22 50 16.68	1.67	6 6 38.1	24.7	3.7
18	22 49 36.33	1.69	5 56 39.0	25.2	3.7
19	22 48 55.37	1.72	5 46 28.2	25.7	3.7
20	22 48 13.84	1.74	5 36 5.9	26.2	3.8
21	22 47 31.76	1.76	5 25 32.6	26.6	3.8
22	22 46 49.20	1.78	5 14 48.4	27.1	3.8
23	22 46 6.17	1.80	5 3 53.7	27.5	3.8
24	22 45 22.71	1.82	4 52 48.8	27.9	3.8
25	22 44 38.88	1.83	4 41 33.9	28.3	3.8
26	22 43 54.71	1.85	4 30 9.5	28.7	3.8
27	22 43 10.24	1.86	4 18 35.8	29.1	3.8
28	22 42 25.51	1.87	4 6 53.2	29.5	3.8
29	22 41 40.56	1.88	3 55 2.1	29.8	3.8
30	22 40 55.44	1.88	3 43 3.0	30.1	3.8
31	22 40 10.17	1.89	3 30 56.2	30.4	3.8
September 1	22 39 24.82	1.89	3 18 42.1	30.7	
2	22 38 39.41	1.89	3 6 21.1	31.0	
3	22 37 53.99	1.89	2 53 53.7	31.3	
4	22 37 8.61	— 1.89	N. 2 41 20.2	— 31.5	

EPHEMERIS OF PALLAS FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor. Par.
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
September 4	22 37 8.61	— 1.89	N. 2 41 20.2	— 31.5	3.8
5	22 36 23.32	1.88	2 28 41.3	31.7	3.9
6	22 35 38.14	1.88	2 15 57.2	31.9	3.9
7	22 34 53.12	1.87	2 3 8.5	32.1	3.9
8	22 34 8.30	1.86	1 50 15.6	32.3	3.9
9	22 33 23.74	1.85	1 37 19.1	32.4	3.9
10	22 32 39.47	1.84	1 24 19.4	32.5	3.9
11	22 31 55.54	1.82	1 11 17.1	32.6	3.9
12	22 31 12.00	1.81	0 58 12.6	32.7	3.9
13	22 30 28.88	1.79	0 45 6.5	32.8	3.9
14	22 29 46.23	1.77	0 31 59.2	32.8	3.9
15	22 29 4.10	1.74	0 18 51.3	32.8	3.9
16	22 28 22.54	1.72	N. 0 5 43.3	32.8	3.8
17	22 27 41.59	1.69	S. 0 7 24.4	32.8	3.8
18	22 27 1.27	1.67	0 20 31.1	32.8	3.8
19	22 26 21.64	1.64	0 33 36.5	32.7	3.8
20	22 25 42.73	1.61	0 46 39.9	32.6	3.8
21	22 25 4.57	1.57	0 59 41.0	32.5	3.8
22	22 24 27.21	1.54	1 12 39.2	32.4	3.8
23	22 23 50.68	1.50	1 25 34.2	32.2	3.8
24	22 23 15.01	1.47	1 38 25.4	32.1	3.8
25	22 22 40.23	1.43	1 51 12.6	31.9	3.8
26	22 22 6.37	1.39	2 3 55.2	31.7	3.8
27	22 21 33.45	1.35	2 16 32.8	31.5	3.8
28	22 21 1.51	1.31	2 29 5.1	31.2	3.8
29	22 20 30.57	1.27	2 41 31.7	31.0	3.8
30	22 20 0.65	1.22	2 53 52.3	30.7	3.7
October 1	22 19 31.78	1.18	3 6 6.4	30.4	3.7
2	22 19 3.97	1.14	3 18 13.8	30.2	3.7
3	22 18 37.25	1.09	3 30 14.1	29.9	3.7
4	22 18 11.65	— 1.05	S. 3 42 7.0	— 29.6	3.7

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
Jan. 1	21 20 '1	S. 23 40	0 '5729	2 35 '9	325 54	S. 9 39	0 '4752
5	21 26 '2	23 11	0 '5764	2 26 '2	326 38	9 43	0 '4752
9	21 32 '3	22 42	0 '5797	2 16 '6	327 23	9 46	0 '4752
13	21 38 '4	22 12	0 '5827	2 7 '0	328 7	9 49	0 '4752
17	21 44 '5	21 42	0 '5855	1 57 '4	328 52	9 52	0 '4752
21	21 50 '7	21 11	0 '5879	1 47 '7	329 36	9 55	0 '4752
25	21 56 '8	20 39	0 '5901	1 38 '1	330 21	9 58	0 '4752
29	22 2 '9	20 7	0 '5920	1 28 '5	331 5	10 1	0 '4752
Feb. 2	22 9 '0	19 35	0 '5937	1 18 '9	331 50	10 3	0 '4751
6	22 15 '1	19 2	0 '5951	1 9 '3	332 34	10 6	0 '4751
10	22 21 '2	18 29	0 '5962	0 59 '6	333 19	10 8	0 '4751
14	22 27 '3	17 56	0 '5971	0 49 '9	334 3	10 11	0 '4750
18	22 33 '4	17 22	0 '5977	0 40 '2	334 48	10 13	0 '4750
22	22 39 '5	16 48	0 '5980	0 30 '5	335 32	10 15	0 '4750
26	22 45 '5	16 14	0 '5981	0 20 '8	336 17	10 17	0 '4749
March 2	22 51 '6	15 40	0 '5979	0 11 '1	337 2	10 19	0 '4748
6	22 57 '6	15 6	0 '5974	0 1 '4	337 47	10 21	0 '4747
10	23 3 '6	14 31	0 '5967	* 23 49 '2	338 31	10 23	0 '4747
14	23 9 '5	13 57	0 '5957	23 39 '4	339 16	10 25	0 '4746
18	23 15 '4	13 23	0 '5945	23 29 '5	340 1	10 27	0 '4745
22	23 21 '3	12 49	0 '5930	23 19 '6	340 46	10 28	0 '4744
26	23 27 '1	12 15	0 '5912	23 9 '7	341 31	10 30	0 '4743
30	23 32 '9	11 41	0 '5892	22 59 '8	342 16	10 31	0 '4742
April 3	23 38 '6	11 8	0 '5869	22 49 '8	343 1	10 32	0 '4741
7	23 44 '3	10 35	0 '5844	22 39 '7	343 46	10 33	0 '4740
11	23 50 '0	10 3	0 '5816	22 29 '6	344 31	10 34	0 '4739
15	23 55 '6	9 31	0 '5786	22 19 '5	345 16	10 35	0 '4737
19	0 1 '2	8 59	0 '5753	22 9 '3	346 1	10 36	0 '4736
23	0 6 '7	8 28	0 '5718	21 59 '0	346 46	10 36	0 '4734
27	0 12 '2	7 58	0 '5680	21 48 '7	347 31	10 37	0 '4733
May 1	0 17 '6	7 28	0 '5640	21 38 '3	348 16	10 37	0 '4731
5	0 22 '9	S. 6 59	0 '5597	21 27 '8	349 1	S. 10 37	0 '4730

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.	^h ^m	[°] [']		^h ^m	[°] [']	[°] [']	
May 5	0 22.9	S. 6 59	0.5597	21 27.8	349 1	S. 10 37	0.4730
9	0 28.2	6 30	0.5551	21 17.3	349 47	10 37	0.4728
13	0 33.4	6 3	0.5503	21 6.7	350 32	10 37	0.4726
17	0 38.5	5 36	0.5452	20 56.1	351 17	10 37	0.4724
21	0 43.6	5 10	0.5399	20 45.4	352 2	10 37	0.4722
25	0 48.6	4 45	0.5344	20 34.7	352 48	10 37	0.4720
29	0 53.5	4 22	0.5286	20 23.8	353 33	10 37	0.4718
June 2	0 58.3	3 59	0.5226	20 12.8	354 19	10 36	0.4716
6	1 3.0	3 37	0.5163	20 1.7	355 4	10 36	0.4714
10	1 7.6	3 17	0.5097	19 50.5	355 50	10 35	0.4712
14	1 12.1	2 58	0.5029	19 39.1	356 35	10 34	0.4710
18	1 16.4	2 40	0.4958	19 27.7	357 21	10 33	0.4708
22	1 20.6	2 24	0.4885	19 16.1	358 6	10 32	0.4706
26	1 24.6	2 9	0.4810	19 4.4	358 52	10 31	0.4703
30	1 28.5	1 56	0.4733	18 52.6	359 37	10 30	0.4701
July 4	1 32.2	1 44	0.4654	18 40.6	0 23	10 28	0.4698
8	1 35.8	1 34	0.4572	18 28.4	1 9	10 27	0.4696
12	1 39.2	1 25	0.4488	18 16.0	1 55	10 25	0.4693
16	1 42.4	1 18	0.4402	18 3.4	2 41	10 24	0.4691
20	1 45.3	1 13	0.4315	17 50.5	3 27	10 22	0.4688
24	1 48.0	1 10	0.4226	17 37.4	4 13	10 20	0.4685
28	1 50.5	1 8	0.4136	17 24.1	4 59	10 18	0.4682
Aug. 1	1 52.7	1 8	0.4044	17 10.5	5 45	10 16	0.4679
5	1 54.6	1 11	0.3952	16 56.6	6 31	10 14	0.4676
9	1 56.2	1 15	0.3860	16 42.4	7 17	10 12	0.4673
13	1 57.5	1 21	0.3769	16 27.9	8 4	10 9	0.4670
17	1 58.5	1 29	0.3678	16 13.1	8 50	10 7	0.4667
21	1 59.1	1 38	0.3588	15 57.9	9 37	10 4	0.4664
25	1 59.4	1 49	0.3500	15 42.4	10 23	10 1	0.4661
29	1 59.3	2 2	0.3413	15 26.6	11 10	9 58	0.4657
Sept. 2	1 58.8	2 17	0.3329	15 10.3	11 56	9 55	0.4654
6	1 58.0	S. 2 33	0.3249	14 53.7	12 43	S. 9 52	0.4651

MEAN TIME.

Date.	Geocentric.				Heliocentric.		
	Right Ascension.	Declination.	Log. of Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1841.							
Sept. 6	^h 1 ^m 58 ^s 0	S. 2 33	0 3249	^h 14 ^m 53 ^s 7	^o 12 43	S. 9 52	0 4651
10	1 56 8	2 50	0 3174	14 36 7	13 30	9 49	0 4648
14	1 55 2	3 8	0 3104	14 19 4	14 17	9 45	0 4644
18	1 53 2	3 27	0 3040	14 1 7	15 3	9 42	0 4641
22	1 50 9	3 46	0 2984	13 43 6	15 50	9 38	0 4637
26	1 48 3	4 5	0 2936	13 25 3	16 37	9 35	0 4633
30	1 45 5	4 23	0 2895	13 6 7	17 24	9 31	0 4629
Oct. 4	1 42 4	4 41	0 2864	12 47 9	18 11	9 27	0 4626
8	1 39 2	4 57	0 2842	12 28 9	18 58	9 23	0 4622
12	1 35 8	5 12	0 2830	12 9 8	19 45	9 19	0 4618
16	1 32 3	5 26	0 2829	11 50 6	20 33	9 15	0 4614
20	1 28 8	5 38	0 2838	11 31 4	21 20	9 11	0 4610
24	1 25 3	5 47	0 2857	11 12 3	22 8	9 6	0 4606
28	1 22 0	5 53	0 2886	10 53 2	22 55	9 2	0 4602
Nov. 1	1 18 8	5 57	0 2924	10 34 3	23 43	8 57	0 4598
5	1 15 8	5 58	0 2971	10 15 6	24 30	8 52	0 4594
9	1 13 1	5 55	0 3026	9 57 3	25 18	8 47	0 4590
13	1 10 7	5 50	0 3088	9 39 3	26 6	8 42	0 4586
17	1 8 6	5 42	0 3155	9 21 5	26 54	8 37	0 4581
21	1 6 9	5 31	0 3228	9 4 1	27 42	8 32	0 4577
25	1 5 5	5 18	0 3306	8 47 1	28 30	8 26	0 4573
29	1 4 5	5 2	0 3388	8 30 4	29 18	8 21	0 4569
Dec. 3	1 3 8	4 43	0 3473	8 13 9	30 6	8 15	0 4564
7	1 3 5	4 22	0 3560	7 57 9	30 54	8 10	0 4560
11	1 3 6	3 59	0 3649	7 42 4	31 42	8 4	0 4555
15	1 4 1	3 34	0 3739	7 27 2	32 30	7 58	0 4551
19	1 5 0	3 8	0 3830	7 12 4	33 19	7 52	0 4546
23	1 6 2	2 40	0 3921	6 57 8	34 7	7 46	
27	1 7 7	2 10	0 4011	6 43 6	34 56	7 4	
31	1 9 6	1 39	0 4100	6 29 7	35 44	7 3	
35	1 11 7	S. 1 6	0 4187	6 16 1	36 33	S. 7	

EPHEMERIS OF CERES FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor- Par-
1841.	^h ^m ^s	^s	[°] ['] ["]	["]	["]
September 12	1 55 49.55	— 1.02	S. 3 0 55.0	— 11.3	4.2
13	1 55 24.31	1.08	3 5 26.7	11.4	4.2
14	1 54 57.74	1.13	3 10 1.1	11.5	4.2
15	1 54 29.85	1.19	3 14 37.8	11.6	4.2
16	1 54 0.64	1.24	3 19 16.7	11.7	4.2
17	1 53 30.15	1.30	3 23 57.1	11.7	4.2
18	1 52 58.40	1.35	3 28 39.1	11.8	4.3
19	1 52 25.40	1.40	3 33 22.2	11.8	4.3
20	1 51 51.19	1.45	3 38 6.1	11.8	4.3
21	1 51 15.78	1.50	3 42 50.4	11.9	4.3
22	1 50 39.22	1.55	3 47 35.0	11.9	4.3
23	1 50 1.53	1.59	3 52 19.4	11.8	4.3
24	1 49 22.75	1.64	3 57 3.4	11.8	4.3
25	1 48 42.90	1.68	4 1 46.4	11.8	4.4
26	1 48 2.04	1.72	4 6 28.3	11.7	4.4
27	1 47 20.18	1.76	4 11 8.7	11.6	4.4
28	1 46 37.36	1.80	4 15 47.4	11.6	4.4
29	1 45 53.63	1.84	4 20 23.9	11.5	4.4
30	1 45 9.02	1.88	4 24 57.9	11.4	4.4
October 1	1 44 23.56	1.91	4 29 29.1	11.2	4.4
2	1 43 37.30	1.94	4 33 57.2	11.1	4.4
3	1 42 50.28	1.97	4 38 21.8	10.9	4.4
4	1 42 2.55	2.00	4 42 42.7	10.8	4.4
5	1 41 14.15	2.03	4 46 59.3	10.6	4.4
6	1 40 25.13	2.05	4 51 11.4	10.4	4.4
7	1 39 35.52	2.08	4 55 18.7	10.2	4.5
8	1 38 45.39	2.10	4 59 20.8	10.0	4.5
9	1 37 54.79	2.12	5 3 17.3	9.7	4.5
10	1 37 3.76	2.13	5 7 7.9	9.5	4.5
11	1 36 12.37	2.15	5 10 52.2	9.2	4.5
12	1 35 20.68	— 2.16	S. 5 14 29.9	— 8.9	4.5

EPHEMERIS OF CERES FOR THE OPPOSITION.

At Transit over the Meridian of Greenwich.

Date.		Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Hor. Par.
1841.		^h ^m ^s	^s	[°] ['] ["]	["]	["]
October	12	1 35 20.68	- 2.16	S. 5 14 29.9	- 8.9	4.5
	13	1 34 28.73	2.17	5 18 0.7	8.6	4.5
	14	1 33 36.58	2.18	5 21 24.2	8.3	4.5
	15	1 32 44.29	2.18	5 24 40.1	8.0	4.5
	16	1 31 51.93	2.18	5 27 48.2	7.7	4.5
	17	1 30 59.55	2.18	5 30 48.0	7.3	4.5
	18	1 30 7.20	2.18	5 33 39.5	7.0	4.5
	19	1 29 14.95	2.17	5 36 22.3	6.6	4.5
	20	1 28 22.86	2.17	5 38 56.1	6.2	4.5
	21	1 27 30.98	2.16	5 41 20.8	5.8	4.5
	22	1 26 39.38	2.14	5 43 36.2	5.4	4.5
	23	1 25 48.08	2.13	5 45 42.1	5.0	4.4
	24	1 24 57.17	2.11	5 47 38.1	4.6	4.4
	25	1 24 6.68	2.09	5 49 24.3	4.2	4.4
	26	1 23 16.67	2.07	5 51 0.4	3.8	4.4
	27	1 22 27.18	2.05	5 52 26.3	3.3	4.4
	28	1 21 38.28	2.02	5 53 41.9	2.9	4.4
	29	1 20 49.99	2.00	5 54 47.1	2.5	4.4
	30	1 20 2.37	1.97	5 55 41.8	2.0	4.4
	31	1 19 15.47	1.94	5 56 25.9	1.6	4.4
November	1	1 18 29.32	1.91	5 56 59.5	1.2	4.4
	2	1 17 43.98	1.87	5 57 22.3	0.7	4.4
	3	1 16 59.47	1.84	5 57 34.2	- 0.3	4.4
	4	1 16 15.85	1.80	5 57 35.4	+ 0.2	4.3
	5	1 15 33.15	1.76	5 57 25.5	0.6	4.3
	6	1 14 51.42	1.72	5 57 4.8	1.1	4.3
	7	1 14 10.68	1.68	5 56 33.1	1.5	4
	8	1 13 30.98	1.63	5 55 50.4	2.0	
	9	1 12 52.35	1.59	5 54 56.5	2.5	
	10	1 12 14.83	1.54	5 53 51.7	2.9	
	11	1 11 38.44	- 1.49	S. 5 52 35.9	+ 3.4	

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	16 26 56.51	S. 21 3 27.7	0.7891873	21 40.3	242 41 34.3	N. 0 46 23.7	0.728
2	16 27 48.54	21 5 24.2	.7885458	21 37.3	242 46 16.7	0 46 18.5	.728
3	16 28 40.36	21 7 19.1	.7878901	21 34.2	242 50 59.1	0 46 13.2	.728
4	16 29 31.94	21 9 12.4	.7872203	21 31.1	242 55 41.7	0 46 8.0	.728
5	16 30 23.29	21 11 4.1	.7865365	21 28.0	243 0 24.3	0 46 2.7	.728
6	16 31 14.41	21 12 54.3	.7858388	21 24.9	243 5 7.0	0 45 57.5	.728
7	16 32 5.29	21 14 42.8	.7851271	21 21.8	243 9 49.6	0 45 52.2	.728
8	16 32 55.91	21 16 29.7	.7844015	21 18.7	243 14 32.2	0 45 47.0	.728
9	16 33 46.27	21 18 15.0	.7836621	21 15.6	243 19 14.9	0 45 41.7	.728
10	16 34 36.37	21 19 58.7	.7829090	21 12.5	243 23 57.6	0 45 36.4	.728
11	16 35 26.20	21 21 40.7	.7821422	21 9.4	243 28 40.3	0 45 31.2	.728
12	16 36 15.75	21 23 21.2	.7813616	21 6.3	243 33 23.1	0 45 25.9	.728
13	16 37 5.01	21 25 0.0	.7805674	21 3.1	243 38 5.9	0 45 20.6	.728
14	16 37 53.97	21 26 37.2	.7797596	21 0.0	243 42 48.7	0 45 15.3	.728
15	16 38 42.64	21 28 12.8	.7789383	20 56.9	243 47 31.5	0 45 10.0	.728
16	16 39 31.00	21 29 46.8	.7781035	20 53.8	243 52 14.4	0 45 4.7	.728
17	16 40 19.04	21 31 19.2	.7772552	20 50.6	243 56 57.3	0 44 59.4	.728
18	16 41 6.76	21 32 50.1	.7763935	20 47.5	244 1 40.3	0 44 54.0	.728
19	16 41 54.14	21 34 19.3	.7755184	20 44.3	244 6 23.2	0 44 48.7	.728
20	16 42 41.18	21 35 47.0	.7746302	20 41.2	244 11 6.2	0 44 43.4	.728
21	16 43 27.87	21 37 13.1	.7737289	20 38.0	244 15 49.2	0 44 38.1	.728
22	16 44 14.20	21 38 37.6	.7728146	20 34.9	244 20 32.3	0 44 32.7	.728
23	16 45 0.16	21 40 0.5	.7718874	20 31.7	244 25 15.4	0 44 27.4	.728
24	16 45 45.75	21 41 21.9	.7709475	20 28.5	244 29 58.5	0 44 22.0	.728
25	16 46 30.96	21 42 41.7	.7699949	20 25.3	244 34 41.6	0 44 16.7	.728
26	16 47 15.78	21 43 59.9	.7690298	20 22.1	244 39 24.8	0 44 11.3	.728
27	16 48 0.20	21 45 16.6	.7680524	20 18.9	244 44 8.0	0 44 5.9	.728
28	16 48 44.22	21 46 31.8	.7670627	20 15.7	244 48 51.2	0 44 0.5	.728
29	16 49 27.82	21 47 45.4	.7660609	20 12.5	244 53 34.5	0 43 55.2	.728
30	16 50 11.00	21 48 57.5	.7650472	20 9.3	244 58 17.8	0 43 49.8	.728
31	16 50 53.76	21 50 8.2	.7640216	20 6.0	245 3 1.1	0 43 44.4	.728
32	16 51 36.08	S. 21 51 17.3	0.7629842	20 2.8	245 7 44.4	N. 0 43 39.0	0.728

JANUARY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 16 27 43·51	+ 2·16	1·16	S. 21° 5' 13·1	— 4·8	15·0	1·4
16 28 35·22	2·15	1·17	21 7 7·9	4·8	15·1	1·4
16 29 26·72	2·14	1·17	21 9 1·1	4·7	15·1	1·4
16 30 17·99	2·13	1·17	21 10 52·7	4·6	15·1	1·4
16 31 9·02	2·12	1·17	21 12 42·7	4·6	15·1	1·4
16 31 59·82	2·11	1·17	21 14 31·2	4·5	15·1	1·4
16 32 50·37	2·10	1·18	21 16 18·0	4·4	15·2	1·4
16 33 40·65	2·09	1·18	21 18 3·3	4·4	15·2	1·4
16 34 30·67	2·08	1·18	21 19 46·9	4·3	15·2	1·4
16 35 20·42	2·07	1·18	21 21 28·9	4·2	15·3	1·4
16 36 9·90	2·06	1·18	21 23 9·3	4·2	15·3	1·4
16 36 59·09	2·04	1·18	21 24 48·2	4·1	15·3	1·4
16 37 47·99	2·03	1·19	21 26 25·4	4·0	15·4	1·4
16 38 36·58	2·02	1·19	21 28 1·0	4·0	15·4	1·4
16 39 24·87	2·01	1·19	21 29 35·0	3·9	15·4	1·4
16 40 12·85	1·99	1·19	21 31 7·4	3·8	15·4	1·4
16 41 0·50	1·98	1·20	21 32 38·2	3·8	15·5	1·4
16 41 47·83	1·96	1·20	21 34 7·5	3·7	15·5	1·4
16 42 34·81	1·95	1·20	21 35 35·2	3·6	15·6	1·4
16 43 21·44	1·93	1·21	21 37 1·3	3·6	15·6	1·4
16 44 7·72	1·92	1·21	21 38 25·8	3·5	15·6	1·4
16 44 53·63	1·91	1·21	21 39 48·8	3·4	15·7	1·4
16 45 39·17	1·89	1·21	21 41 10·2	3·4	15·7	1·4
16 46 24·34	1·87	1·21	21 42 30·0	3·3	15·7	1·4
16 47 9·12	1·86	1·22	21 43 48·3	3·2	15·8	1·5
16 47 53·50	1·84	1·22	21 45 5·0	3·2	15·8	1·5
16 48 37·48	1·82	1·22	21 46 20·3	3·1	15·8	
16 49 21·06	1·81	1·23	21 47 34·0	3·0	15·9	
16 50 4·21	1·79	1·23	21 48 46·2	3·0	15·9	
16 50 46·93	1·77	1·23	21 49 56·9	2·9	15·9	
16 51 29·23	1·75	1·24	21 51 6·2	2·9	16·0	
16 52 11·09	+ 1·73	1·24	S. 21 52 13·9	— 2·8	16·0	

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	h m s	° ' "		h m	° ' "	° ' "	
1	16 51 36.08	S. 21 51 17.3	0.7629842	20 2.8	245 7 44.4	N. 0 43 39.0	0.7278
2	16 52 17.96	21 52 25.0	.7619353	19 59.5	245 12 27.8	0 43 33.6	.7278
3	16 52 59.39	21 53 31.2	.7608750	19 56.3	245 17 11.2	0 43 28.2	.7277
4	16 53 40.37	21 54 36.0	.7598034	19 53.0	245 21 54.7	0 43 22.8	.7277
5	16 54 20.89	21 55 39.3	.7587206	19 49.8	245 26 38.1	0 43 17.4	.7277
6	16 55 0.94	21 56 41.3	.7576267	19 46.5	245 31 21.6	0 43 11.9	.7277
7	16 55 40.51	21 57 41.8	.7565218	19 43.3	245 36 5.1	0 43 6.5	.7276
8	16 56 19.60	21 58 40.9	.7554061	19 40.0	245 40 48.7	0 43 1.1	.7276
9	16 56 58.20	21 59 38.6	.7542798	19 36.7	245 45 32.3	0 42 55.6	.7276
10	16 57 36.30	22 0 34.9	.7531429	19 33.3	245 50 15.9	0 42 50.2	.7276
11	16 58 13.90	22 1 29.8	.7519955	19 30.0	245 54 59.6	0 42 44.7	.7275
12	16 58 50.98	22 2 23.3	.7508379	19 26.7	245 59 43.2	0 42 39.3	.7275
13	16 59 27.54	22 3 15.5	.7496702	19 23.4	246 4 26.9	0 42 33.8	.7275
14	17 0 3.57	22 4 6.4	.7484925	19 20.0	246 9 10.7	0 42 28.3	.7275
15	17 0 39.05	22 4 55.9	.7473050	19 16.7	246 13 54.5	0 42 22.9	.7274
16	17 1 13.98	22 5 44.1	.7461078	19 13.3	246 18 38.2	0 42 17.4	.7274
17	17 1 48.36	22 6 31.0	.7449012	19 9.9	246 23 22.1	0 42 11.9	.7274
18	17 2 22.17	22 7 16.6	.7436855	19 6.5	246 28 5.9	0 42 6.4	.7274
19	17 2 55.41	22 8 0.9	.7424607	19 3.2	246 32 49.8	0 42 0.9	.7273
20	17 3 28.06	22 8 43.9	.7412272	18 59.8	246 37 33.8	0 41 55.4	.7273
21	17 4 0.12	22 9 25.7	.7399852	18 56.4	246 42 17.7	0 41 49.9	.7273
22	17 4 31.58	22 10 6.3	.7387349	18 52.9	246 47 1.7	0 41 44.4	.7273
23	17 5 2.44	22 10 45.6	.7374766	18 49.5	246 51 45.7	0 41 38.9	.7273
24	17 5 32.68	22 11 23.7	.7362105	18 46.0	246 56 29.8	0 41 33.4	.7272
25	17 6 2.31	22 12 0.7	.7349369	18 42.6	247 1 13.8	0 41 27.8	.7272
26	17 6 31.30	22 12 36.4	.7336560	18 39.1	247 5 57.9	0 41 22.3	.7272
27	17 6 59.66	22 13 11.0	.7323680	18 35.7	247 10 42.1	0 41 16.8	.7272
28	17 7 27.38	22 13 44.5	.7310733	18 32.2	247 15 26.3	0 41 11.2	.7271
29	17 7 54.45	S. 22 14 16.8	0.7297720	18 28.7	247 20 10.5	N. 0 41 5.7	0.7271

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^h ^m ^s 16 52 11.09	+ ^s 1.73	^s 1.24	S. [°] ['] ["] 21 52 13.9	— ["] 2.8	["] 16.0	["] 1.5
16 52 52.50	1.72	1.24	21 53 20.2	2.7	16.0	1.5
16 53 33.46	1.70	1.24	21 54 25.1	2.6	16.0	1.5
16 54 13.97	1.68	1.25	21 55 28.6	2.6	16.1	1.5
16 54 54.01	1.66	1.25	21 56 30.6	2.6	16.1	1.5
16 55 33.58	1.64	1.25	21 57 31.3	2.5	16.2	1.5
16 56 12.67	1.62	1.25	21 58 30.5	2.4	16.2	1.5
16 56 51.27	1.60	1.25	21 59 28.3	2.4	16.2	1.5
16 57 29.37	1.58	1.26	22 0 24.7	2.3	16.3	1.5
16 58 6.97	1.56	1.26	22 1 19.7	2.3	16.3	1.5
16 58 44.06	1.53	1.27	22 2 13.4	2.2	16.4	1.5
16 59 20.63	1.51	1.27	22 3 5.7	2.2	16.4	1.5
16 59 56.68	1.49	1.28	22 3 56.7	2.1	16.5	1.5
17 0 32.19	1.47	1.28	22 4 46.4	2.1	16.5	1.5
17 1 7.15	1.45	1.28	22 5 34.7	2.0	16.6	1.5
17 1 41.55	1.42	1.28	22 6 21.7	1.9	16.6	1.5
17 2 15.40	1.40	1.29	22 7 7.5	1.9	16.7	1.5
17 2 48.68	1.37	1.29	22 7 52.0	1.8	16.7	1.6
17 3 21.38	1.35	1.30	22 8 35.2	1.8	16.8	1.6
17 3 53.49	1.33	1.30	22 9 17.1	1.7	16.8	1.6
17 4 25.00	1.30	1.30	22 9 57.8	1.7	16.9	1.6
17 4 55.91	1.28	1.31	22 10 37.3	1.6	16.9	1.6
17 5 26.22	1.25	1.31	22 11 15.6	1.6	17.0	1.6
17 5 55.91	1.22	1.32	22 11 52.7	1.5	17.1	1.6
17 6 24.97	1.20	1.32	22 12 28.7	1.5	17.1	1.6
17 6 53.40	1.17	1.32	22 13 3.5	1.4	17.1	1.6
17 7 21.20	1.14	1.33	22 13 37.1	1.4	17.2	1.6
17 7 48.35	1.12	1.33	22 14 9.6	1.3	17.2	1.6
17 8 14.85	+ 1.09	1.34	S. 22 14 41.0	— 1.3	17.2	

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No.
1	h m s 17 7 51.45	S. 22 14 16.8	0.7297720	h m 18 28.7	247 20 10.5	N. 0 41 5.7	0.727
2	17 8 20.86	22 14 48.0	.7284645	18 25.2	247 24 54.7	0 41 0.1	.727
3	17 8 46.62	22 15 18.1	.7271509	18 21.7	247 29 39.0	0 40 54.6	.727
4	17 9 11.71	22 15 47.2	.7258316	18 18.2	247 34 23.3	0 40 49.0	.727
5	17 9 36.13	22 16 15.1	.7245069	18 14.7	247 39 7.6	0 40 43.4	.727
6	17 9 59.87	22 16 41.9	.7231770	18 11.1	247 43 52.0	0 40 37.9	.727
7	17 10 22.93	22 17 7.7	.7218422	18 7.6	247 48 36.3	0 40 32.3	.727
8	17 10 45.30	22 17 32.5	.7205026	18 4.0	247 53 20.8	0 40 26.7	.726
9	17 11 6.97	22 17 56.2	.7191587	18 0.4	247 58 5.2	0 40 21.1	.726
10	17 11 27.94	22 18 18.9	.7178107	17 56.8	248 2 49.7	0 40 15.5	.726
11	17 11 48.19	22 18 40.6	.7164588	17 53.2	248 7 34.2	0 40 9.9	.726
12	17 12 7.73	22 19 1.3	.7151033	17 49.6	248 12 18.8	0 40 4.3	.726
13	17 12 26.54	22 19 21.1	.7137446	17 46.0	248 17 3.3	0 39 58.7	.726
14	17 12 44.63	22 19 39.8	.7123830	17 42.3	248 21 48.0	0 39 53.1	.726
15	17 13 1.97	22 19 57.6	.7110188	17 38.7	248 26 32.6	0 39 47.4	.726
16	17 13 18.57	22 20 14.5	.7096523	17 35.0	248 31 17.3	0 39 41.8	.726
17	17 13 34.42	22 20 30.4	.7082840	17 31.3	248 36 2.0	0 39 36.2	.726
18	17 13 49.51	22 20 45.4	.7069141	17 27.6	248 40 46.7	0 39 30.5	.726
19	17 14 3.84	22 20 59.4	.7055431	17 23.9	248 45 31.5	0 39 24.9	.726
20	17 14 17.40	22 21 12.6	.7041713	17 20.2	248 50 16.3	0 39 19.2	.726
21	17 14 30.19	22 21 24.8	.7027992	17 16.5	248 55 1.1	0 39 13.6	.726
22	17 14 42.20	22 21 36.1	.7014272	17 12.7	248 59 46.0	0 39 7.9	.726
23	17 14 53.43	22 21 46.6	.7000556	17 9.0	249 4 30.9	0 39 2.3	.726
24	17 15 3.87	22 21 56.2	.6986849	17 5.2	249 9 15.9	0 38 56.6	.726
25	17 15 13.52	22 22 4.9	.6973156	17 1.4	249 14 0.8	0 38 50.9	.726
26	17 15 22.37	22 22 12.8	.6959481	16 57.6	249 18 45.8	0 38 45.2	.726
27	17 15 30.43	22 22 19.8	.6945828	16 53.8	249 23 30.9	0 38 39.6	.726
28	17 15 37.70	22 22 26.0	.6932201	16 50.0	249 28 16.0	0 38 33.9	.726
29	17 15 44.16	22 22 31.4	.6918606	16 46.2	249 33 1.1	0 38 28.2	.726
30	17 15 49.82	22 22 36.0	.6905048	16 42.3	249 37 46.2	0 38 22.5	.726
31	17 15 54.68	22 22 39.7	.6891530	16 38.5	249 42 31.4	0 38 16.8	.726
32	17 15 58.74	S. 22 22 42.6	0.6878055	16 34.6	249 47 16.6	N. 0 38 11.1	0.726

MARCH, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
17 8 14.85	+ 1.09	1.34	S. 22 14 41.0	- 1.3	17.2	1.6
17 8 40.69	1.06	1.35	22 15 11.3	1.2	17.3	1.6
17 9 5.88	1.04	1.35	22 15 40.5	1.2	17.3	1.6
17 9 30.40	1.01	1.36	22 16 8.6	1.2	17.4	1.6
17 9 54.24	0.98	1.36	22 16 35.6	1.1	17.4	1.6
17 10 17.41	0.95	1.36	22 17 1.5	1.1	17.5	1.6
17 10 39.89	0.92	1.36	22 17 26.5	1.0	17.5	1.6
17 11 1.68	0.89	1.37	22 17 50.4	1.0	17.6	1.6
17 11 22.77	0.86	1.37	22 18 13.3	0.9	17.7	1.7
17 11 43.16	0.83	1.37	22 18 35.2	0.9	17.7	1.7
17 12 2.83	0.80	1.38	22 18 56.1	0.8	17.8	1.7
17 12 21.78	0.77	1.38	22 19 16.0	0.8	17.9	1.7
17 12 40.00	0.74	1.39	22 19 35.1	0.8	17.9	1.7
17 12 57.50	0.71	1.39	22 19 53.1	0.7	18.0	1.7
17 13 14.25	0.68	1.39	22 20 10.1	0.7	18.0	1.7
17 13 30.26	0.65	1.40	22 20 26.3	0.7	18.1	1.7
17 13 45.52	0.62	1.41	22 20 41.5	0.6	18.2	1.7
17 14 0.01	0.59	1.41	22 20 55.8	0.6	18.2	1.7
17 14 13.75	0.56	1.42	22 21 9.1	0.6	18.3	1.7
17 14 26.71	0.52	1.42	22 21 21.6	0.5	18.4	1.7
17 14 38.91	0.49	1.42	22 21 33.1	0.5	18.4	1.7
17 14 50.33	0.46	1.43	22 21 43.8	0.5	18.5	1.7
17 15 0.97	0.43	1.43	22 21 53.6	0.4	18.5	1.7
17 15 10.82	0.39	1.43	22 22 2.6	0.4	18.5	1.7
17 15 19.88	0.36	1.44	22 22 10.6	0.3	18.6	1.7
17 15 28.15	0.33	1.44	22 22 17.9	0.3	18.6	1.7
17 15 35.63	0.30	1.45	22 22 24.3	0.3	18.7	1.7
17 15 42.32	0.26	1.45	22 22 29.9	0.2	18.7	
17 15 48.20	0.23	1.46	22 22 34.7	0.2	18.8	
17 15 53.29	0.20	1.46	22 22 38.7	0.2	18.9	
17 15 57.58	0.16	1.47	22 22 41.8	0.1	19.0	
17 16 1.08	+ 0.13	1.47	S. 22 22 44.2	- 0.1	19.0	

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 15 58.74	S. 22 22 42.6	0.6878055	16 34.6	249 47 16.6	N. 0 38 11.1	0.726
2	17 16 2.00	22 22 44.7	.6864629	16 30.7	249 52 1.8	0 38 5.3	.726
3	17 16 4.44	22 22 46.0	.6851254	16 26.8	249 56 47.1	0 37 59.6	.726
4	17 16 6.08	22 22 46.5	.6837935	16 22.9	250 1 32.4	0 37 53.9	.726
5	17 16 6.92	22 22 46.2	.6824675	16 18.9	250 6 17.8	0 37 48.2	.726
6	17 16 6.94	22 22 45.1	.6811480	16 15.0	250 11 3.2	0 37 42.4	.726
7	17 16 6.16	22 22 43.2	.6798355	16 11.0	250 15 48.6	0 37 36.7	.726
8	17 16 4.57	22 22 40.5	.6785304	16 7.1	250 20 34.0	0 37 30.9	.726
9	17 16 2.17	22 22 37.0	.6772332	16 3.1	250 25 19.5	0 37 25.2	.726
10	17 15 58.97	22 22 32.7	.6759444	15 59.1	250 30 5.0	0 37 19.4	.726
11	17 15 54.96	22 22 27.6	.6746645	15 55.1	250 34 50.5	0 37 13.7	.726
12	17 15 50.14	22 22 21.8	.6733939	15 51.1	250 39 36.1	0 37 7.9	.726
13	17 15 44.51	22 22 15.1	.6721333	15 47.0	250 44 21.7	0 37 2.1	.726
14	17 15 38.08	22 22 7.7	.6708832	15 43.0	250 49 7.4	0 36 56.4	.726
15	17 15 30.85	22 21 59.4	.6696440	15 38.9	250 53 53.1	0 36 50.6	.726
16	17 15 22.82	22 21 50.4	.6684163	15 34.9	250 58 38.8	0 36 44.8	.726
17	17 15 13.99	22 21 40.6	.6672005	15 30.8	251 3 24.6	0 36 39.0	.726
18	17 15 4.37	22 21 30.0	.6659973	15 26.7	251 8 10.4	0 36 33.2	.726
19	17 14 53.96	22 21 18.6	.6648072	15 22.6	251 12 56.2	0 36 27.4	.726
20	17 14 42.77	22 21 6.4	.6636307	15 18.5	251 17 42.0	0 36 21.6	.726
21	17 14 30.81	22 20 53.4	.6624683	15 14.3	251 22 27.9	0 36 15.8	.726
22	17 14 18.07	22 20 39.7	.6613207	15 10.2	251 27 13.9	0 36 10.0	.726
23	17 14 4.57	22 20 25.2	.6601884	15 6.0	251 31 59.9	0 36 4.2	.726
24	17 13 50.32	22 20 9.9	.6590719	15 1.8	251 36 45.9	0 35 58.3	.726
25	17 13 35.32	22 19 53.8	.6579717	14 57.6	251 41 31.9	0 35 52.5	.726
26	17 13 19.59	22 19 36.9	.6568883	14 53.5	251 46 18.0	0 35 46.7	.726
27	17 13 3.14	22 19 19.3	.6558223	14 49.2	251 51 4.1	0 35 40.8	.726
28	17 12 45.97	22 19 0.8	.6547742	14 45.0	251 55 50.2	0 35 35.0	.726
29	17 12 28.10	22 18 41.6	.6537446	14 40.7	252 0 36.4	0 35 29.1	.726
30	17 12 9.54	22 18 21.5	.6527338	14 36.5	252 5 22.6	0 35 23.3	.726
31	17 11 50.30	S. 22 18 0.7	0.6517423	14 32.2	252 10 8.9	N. 0 35 17.4	0.726

APRIL, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	17 16 1'08	+ 0'13	1'47	S. 22 22 44'2	- 0'1	19'0	1'8
2	17 16 3'77	0'10	1'48	22 22 45'7	0'0	19'1	1'8
3	17 16 5'66	0'06	1'48	22 22 46'4	0'0	19'1	1'8
4	17 16 6'74	+ 0'03	1'49	22 22 46'4	0'0	19'2	1'8
5	17 16 7'02	- 0'01	1'49	22 22 45'6	+ 0'1	19'3	1'8
6	17 16 6'50	0'04	1'49	22 22 43'9	0'1	19'3	1'8
7	17 16 5'18	0'07	1'50	22 22 41'5	0'1	19'4	1'8
8	17 16 3'05	0'11	1'50	22 22 38'3	0'2	19'4	1'8
9	17 16 0'12	0'14	1'51	22 22 34'2	0'2	19'5	1'8
10	17 15 56'39	0'17	1'52	22 22 29'4	0'2	19'6	1'8
11	17 15 51'85	0'21	1'52	22 22 23'8	0'3	19'6	1'8
12	17 15 46'51	0'24	1'52	22 22 17'5	0'3	19'7	1'8
13	17 15 40'37	0'27	1'53	22 22 10'3	0'3	19'8	1'8
14	17 15 33'43	0'31	1'53	22 22 2'4	0'4	19'8	1'8
15	17 15 25'70	0'34	1'53	22 21 53'6	0'4	19'8	1'8
16	17 15 17'18	0'37	1'53	22 21 44'1	0'4	19'8	1'8
17	17 15 7'86	0'40	1'54	22 21 33'8	0'5	19'9	1'9
18	17 14 57'76	0'44	1'55	22 21 22'7	0'5	20'0	1'9
19	17 14 46'88	0'47	1'55	22 21 10'9	0'5	20'0	1'9
20	17 14 35'23	0'50	1'56	22 20 58'2	0'6	20'1	1'9
21	17 14 22'81	0'53	1'56	22 20 44'7	0'6	20'1	1'9
22	17 14 9'63	0'57	1'56	22 20 30'6	0'6	20'2	1'9
23	17 13 55'69	0'60	1'57	22 20 15'7	0'6	20'3	1'9
24	17 13 41'01	0'63	1'57	22 19 59'9	0'7	20'3	1'9
25	17 13 25'60	0'66	1'58	22 19 43'4	0'7	20'	
26	17 13 9'47	0'69	1'58	22 19 26'1	0'7		
27	17 12 52'62	0'72	1'59	22 19 8'0	0'8		
28	17 12 35'07	0'75	1'59	22 18 49'1	0'8		
29	17 12 16'83	0'77	1'59	22 18 29'4	0'8		
30	17 11 57'90	0'80	1'59	22 18 8'9	0'9		
1	17 11 38'31	- 0'83	1'60	S. 22 17 47'7	+ 0		

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. V.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 11 50.30	S. 22 18 0.7	0.6517423	14 32.2	252 10 8.9	N. 0 35 17.4	0.7255
2	17 11 30.38	22 17 39.1	.6507705	14 28.0	252 14 55.2	0 35 11.6	.7255
3	17 11 9.81	22 17 16.7	.6498190	14 23.7	252 19 41.5	0 35 5.7	.7255
4	17 10 48.59	22 16 53.5	.6488881	14 19.5	252 24 27.9	0 34 59.8	.7255
5	17 10 26.74	22 16 29.5	.6479782	14 15.1	252 29 14.3	0 34 54.0	.7254
6	17 10 4.26	22 16 4.7	.6470899	14 10.8	252 34 0.7	0 34 48.1	.7254
7	17 9 41.18	22 15 39.2	.6462236	14 6.5	252 38 47.2	0 34 42.2	.7254
8	17 9 17.50	22 15 12.8	.6453797	14 2.2	252 43 33.7	0 34 36.3	.7254
9	17 8 53.24	22 14 45.6	.6445588	13 57.8	252 48 20.2	0 34 30.4	.7253
10	17 8 28.41	22 14 17.7	.6437612	13 53.5	252 53 6.8	0 34 24.5	.7253
11	17 8 3.03	22 13 49.0	.6429874	13 49.1	252 57 53.4	0 34 18.6	.7253
12	17 7 37.11	22 13 19.5	.6422378	13 44.8	253 2 40.1	0 34 12.7	.7253
13	17 7 10.67	22 12 49.2	.6415130	13 40.4	253 7 26.8	0 34 6.8	.7252
14	17 6 43.73	22 12 18.1	.6408132	13 36.0	253 12 13.5	0 34 0.8	.7252
15	17 6 16.29	22 11 46.3	.6401389	13 31.6	253 17 0.3	0 33 54.9	.7252
16	17 5 48.39	22 11 13.8	.6394906	13 27.2	253 21 47.0	0 33 49.0	.7251
17	17 5 20.04	22 10 40.5	.6388686	13 22.8	253 26 33.9	0 33 43.1	.7251
18	17 4 51.25	22 10 6.6	.6382734	13 18.4	253 31 20.8	0 33 37.1	.7251
19	17 4 22.06	22 9 31.9	.6377052	13 14.0	253 36 7.7	0 33 31.2	.7251
20	17 3 52.47	22 8 56.6	.6371644	13 9.6	253 40 54.6	0 33 25.3	.7250
21	17 3 22.51	22 8 20.6	.6366513	13 5.1	253 45 41.6	0 33 19.3	.7250
22	17 2 52.21	22 7 43.9	.6361663	13 0.7	253 50 28.6	0 33 13.4	.7250
23	17 2 21.58	22 7 6.6	.6357097	12 56.2	253 55 15.7	0 33 7.4	.7250
24	17 1 50.64	22 6 28.7	.6352816	12 51.8	254 0 2.7	0 33 1.4	.7249
25	17 1 19.43	22 5 50.3	.6348823	12 47.3	254 4 49.9	0 32 55.5	.7249
26	17 0 47.95	22 5 11.2	.6345120	12 42.9	254 9 37.0	0 32 49.5	.7249
27	17 0 16.24	22 4 31.6	.6341708	12 38.4	254 14 24.2	0 32 43.5	.7249
28	16 59 44.32	22 3 51.5	.6338590	12 34.0	254 19 11.5	0 32 37.5	.7248
29	16 59 12.22	22 3 10.9	.6335767	12 29.5	254 23 58.7	0 32 31.6	.7248
30	16 58 39.95	22 2 29.8	.6333239	12 25.0	254 28 46.0	0 32 25.6	.7248
31	16 58 7.53	22 1 48.2	.6331008	12 20.5	254 33 33.4	0 32 19.6	.7247
32	16 57 34.99	S. 22 1 6.2	0.6329075	12 16.1	254 38 20.8	N. 0 32 13.6	0.7247

MAY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 17 11 38·31	^s — 0·83	^s 1·60	[°] ['] ["] S. 22 17 47·7	["] + 0·9	["] 20·7	["] 1·9
17 11 18·05	0·86	1·60	22 17 25·7	0·9	20·7	1·9
17 10 57·15	0·88	1·61	22 17 2·9	1·0	20·8	1·9
17 10 35·62	0·91	1·61	22 16 39·3	1·0	20·8	1·9
17 10 13·46	0·94	1·62	22 16 14·9	1·0	20·9	1·9
17 9 50·69	0·96	1·62	22 15 49·7	1·1	20·9	1·9
17 9 27·33	0·99	1·63	22 15 23·8	1·1	21·0	1·9
17 9 3·38	1·01	1·63	22 14 57·1	1·1	21·0	1·9
17 8 38·86	1·03	1·63	22 14 29·5	1·2	21·0	1·9
17 8 13·79	1·06	1·64	22 14 1·2	1·2	21·0	2·0
17 7 48·18	1·08	1·64	22 13 32·1	1·2	21·0	2·0
17 7 22·04	1·10	1·64	22 13 2·2	1·3	21·1	2·0
17 6 55·39	1·12	1·64	22 12 31·6	1·3	21·1	2·0
17 6 28·25	1·14	1·65	22 12 0·1	1·3	21·2	2·0
17 6 0·63	1·16	1·65	22 11 28·0	1·4	21·2	2·0
17 5 32·56	1·18	1·65	22 10 55·2	1·4	21·2	2·0
17 5 4·05	1·20	1·65	22 10 21·6	1·4	21·2	2·0
17 4 35·12	1·21	1·65	22 9 47·4	1·4	21·2	2·0
17 4 5·80	1·23	1·65	22 9 12·5	1·5	21·3	2·0
17 3 36·09	1·25	1·65	22 8 36·9	1·5	21·3	2·0
17 3 6·03	1·26	1·65	22 8 0·7	1·5	21·3	2·0
17 2 35·64	1·28	1·66	22 7 23·8	1·6	21·4	2·0
17 2 4·94	1·29	1·66	22 6 46·3	1·6	21·4	2·0
17 1 33·94	1·30	1·66	22 6 8·2	1·6	21·4	2·0
17 1 2·68	1·31	1·66	22 5 29·6	1·6	21·4	2·0
17 0 31·18	1·32	1·67	22 4 50·3	1·7	21·5	2·0
16 59 59·45	1·33	1·67	22 4 10·6	1·7	21·5	2·0
16 59 27·53	1·34	1·67	22 3 30·3	1·7	21·5	2·0
16 58 55·44	1·34	1·67	22 2 49·6	1·7	21·5	2·0
16 58 23·19	1·35	1·67	22 2 8·4	1·7	21·5	2·0
16 57 50·80	1·35	1·67	22 1 26·7	1·8	21·5	2·0
16 57 18·30	— 1·36	1·67	S. 22 0 44·6	+ 1·8	21·5	2·0

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	No	
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]		
1	16 57 34.99	S. 22 1 6.2	0.6329075	12 16.1	254 38 20.8	N. 0 32 13.6	0.724	
2	16 57 2.34	22 0 23.8	.6327440	12 11.6	254 43 8.2	0 32 7.6	.724	
3	16 56 29.62	21 59 41.0	.6326104	12 7.1	254 47 55.6	0 32 1.6	.724	
4	16 55 56.83	21 58 57.8	.6325067	12 2.6	254 52 43.1	0 31 55.5	.724	
5	16 55 24.00	21 58 14.3	.6324329	11 58.2	254 57 30.7	0 31 49.5	.724	
6	16 54 51.16	21 57 30.5	.6323891	11 53.7	255 2 18.2	0 31 43.5	.724	
7	16 54 18.32	21 56 46.5	.6323753	11 49.2	255 7 5.8	0 31 37.5	.724	
8	16 53 45.51	21 56 2.2	.6323915	11 44.7	255 11 53.4	0 31 31.5	.724	
9	16 53 12.76	21 55 17.8	.6324377	11 40.3	255 16 41.1	0 31 25.4	.724	
10	16 52 40.08	21 54 33.2	.6325138	11 35.8	255 21 28.8	0 31 19.4	.724	
11	16 52 7.50	21 53 48.6	.6326199	11 31.3	255 26 16.5	0 31 13.3	.724	
12	16 51 35.05	21 53 3.9	.6327558	11 26.8	255 31 4.3	0 31 7.3	.724	
13	16 51 2.73	21 52 19.2	.6329216	11 22.4	255 35 52.1	0 31 1.2	.724	
14	16 50 30.58	21 51 34.5	.6331170	11 17.9	255 40 40.0	0 30 55.2	.724	
15	16 49 58.62	21 50 49.9	.6333420	11 13.5	255 45 27.9	0 30 49.1	.724	
16	16 49 26.86	21 50 5.4	.6335965	11 9.0	255 50 15.8	0 30 43.0	.724	
17	16 48 55.34	21 49 21.0	.6338804	11 4.6	255 55 3.7	0 30 37.0	.724	
18	16 48 24.08	21 48 36.9	.6341933	11 0.1	255 59 51.7	0 30 30.9	.724	
19	16 47 53.09	21 47 52.9	.6345350	10 55.7	256 4 39.7	0 30 24.8	.724	
20	16 47 22.40	21 47 9.3	.6349053	10 51.2	256 9 27.8	0 30 18.7	.724	
21	16 46 52.04	21 46 26.0	.6353040	10 46.8	256 14 15.9	0 30 12.6	.724	
22	16 46 22.02	21 45 43.1	.6357308	10 42.4	256 19 4.0	0 30 6.5	.724	
23	16 45 52.37	21 45 0.6	.6361854	10 38.0	256 23 52.2	0 30 0.4	.724	
24	16 45 23.10	21 44 18.5	.6366673	10 33.6	256 28 40.4	0 29 54.3	.724	
25	16 44 54.24	21 43 37.0	.6371763	10 29.2	256 33 28.7	0 29 48.2	.724	
26	16 44 25.81	21 42 56.0	.6377119	10 24.8	256 38 17.0	0 29 42.1	.724	
27	16 43 57.81	21 42 15.6	.6382739	10 20.4	256 43 5.3	0 29 36.0	.724	
28	16 43 30.27	21 41 35.9	.6388618	10 16.0	256 47 53.6	0 29 29.9	.724	
29	16 43 3.21	21 40 56.8	.6394752	10 11.6	256 52 42.0	0 29 23.8	.724	
30	16 42 36.64	21 40 18.5	.6401137	10 7.2	256 57 30.4	0 29 17.6	.723	
31	16 42 10.57	S. 21 39 40.9	0.6407769	10 2.9	257 2 18.9	N. 0 29 11.5	0.725	

JUNE, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 16 57 18.30	^s — 1.36	^s 1.67	[°] ['] ["] S. 22 0 44.6	["] + 1.8	["] 21.5	["] 2.0
16 56 45.72	1.36	1.67	22 0 2.2	1.8	21.5	2.0
16 56 13.07	1.36	1.67	21 59 19.3	1.8	21.5	2.0
16 55 40.36	1.36	1.67	21 58 36.0	1.8	21.5	2.0
16 55 7.62	1.36	1.67	21 57 52.5	1.8	21.5	2.0
16 54 34.88	1.36	1.67	21 57 8.7	1.8	21.5	2.0
16 54 2.16	1.36	1.67	21 56 24.7	1.8	21.5	2.0
16 53 29.48	1.36	1.67	21 55 40.4	1.9	21.5	2.0
16 52 56.86	1.36	1.67	21 54 56.1	1.9	21.5	2.0
16 52 24.32	1.35	1.67	21 54 11.6	1.9	21.5	2.0
16 51 51.90	1.35	1.67	21 53 27.1	1.9	21.5	2.0
16 51 19.61	1.34	1.67	21 52 42.6	1.9	21.5	2.0
16 50 47.47	1.34	1.67	21 51 58.0	1.9	21.5	2.0
16 50 15.50	1.33	1.67	21 51 13.5	1.9	21.5	2.0
16 49 43.74	1.32	1.67	21 50 29.1	1.9	21.5	2.0
16 49 12.19	1.31	1.67	21 49 44.8	1.9	21.5	2.0
16 48 40.88	1.30	1.67	21 49 0.6	1.8	21.5	2.0
16 48 9.84	1.29	1.67	21 48 16.7	1.8	21.5	2.0
16 47 39.09	1.28	1.66	21 47 32.9	1.8	21.4	2.0
16 47 8.64	1.27	1.66	21 46 49.6	1.8	21.4	2.0
16 46 38.52	1.25	1.66	21 46 6.6	1.8	21.4	2.0
16 46 8.75	1.23	1.66	21 45 24.0	1.8	21.4	2.0
16 45 39.36	1.22	1.66	21 44 41.9	1.8	21.3	2.0
16 45 10.36	1.20	1.66	21 44 0.1	1.7	21.3	2.0
16 44 41.77	1.18	1.66	21 43 19.0	1.7	21.3	2.0
16 44 13.61	1.16	1.65	21 42 38.4	1.7	21.2	2.0
16 43 45.89	1.15	1.65	21 41 58.4	1.7	21.2	2.0
16 43 18.63	1.13	1.65	21 41 19.1	1.6	21.2	2.0
16 42 51.86	1.11	1.65	21 40 40.4	1.6	21.2	2.0
16 42 25.58	1.08	1.64	21 40 2.5	1.6	21.1	2.0
16 41 59.81	— 1.06	1.64	S. 21 39 25.4	+ 1.5	21.1	2.0

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	^h ^m ^s	[°] ['] ^{''}		^h ^m	[°] ['] ^{''}	[°] ['] ^{''}	
1	16 42 10.57	S. 21 39 40.9	0.6407769	10 2.9	257 2 18.9	N. 0 29 11.5	0.723
2	16 41 45.03	21 39 4.1	.6414645	9 58.5	257 7 7.4	0 29 5.4	.723
3	16 41 20.02	21 38 28.2	.6421759	9 54.2	257 11 55.9	0 28 59.2	.723
4	16 40 55.56	21 37 53.1	.6429108	9 49.8	257 16 44.5	0 28 53.1	.723
5	16 40 31.67	21 37 18.9	.6436687	9 45.5	257 21 33.1	0 28 46.9	.723
6	16 40 8.35	21 36 45.7	.6444493	9 41.2	257 26 21.7	0 28 40.8	.723
7	16 39 45.63	21 36 13.5	.6452522	9 36.9	257 31 10.4	0 28 34.6	.723
8	16 39 23.51	21 35 42.4	.6460770	9 32.6	257 35 59.1	0 28 28.5	.723
9	16 39 2.00	21 35 12.3	.6469231	9 28.3	257 40 47.8	0 28 22.3	.723
10	16 38 41.12	21 34 43.4	.6477903	9 24.0	257 45 36.6	0 28 16.1	.723
11	16 38 20.88	21 34 15.6	.6486780	9 19.8	257 50 25.4	0 28 10.0	.723
12	16 38 1.30	21 33 49.0	.6495858	9 15.5	257 55 14.3	0 28 3.8	.723
13	16 37 42.38	21 33 23.6	.6505131	9 11.3	258 0 3.2	0 27 57.6	.723
14	16 37 24.13	21 32 59.5	.6514595	9 7.1	258 4 52.1	0 27 51.4	.723
15	16 37 6.57	21 32 36.6	.6524246	9 2.9	258 9 41.0	0 27 45.2	.723
16	16 36 49.71	21 32 15.1	.6534079	8 58.7	258 14 30.0	0 27 39.0	.723
17	16 36 33.55	21 31 54.9	.6544087	8 54.5	258 19 19.1	0 27 32.8	.723
18	16 36 18.12	21 31 36.0	.6554267	8 50.3	258 24 8.1	0 27 26.6	.723
19	16 36 3.41	21 31 18.5	.6564613	8 46.1	258 28 57.2	0 27 20.4	.723
20	16 35 49.43	21 31 2.5	.6575119	8 41.9	258 33 46.4	0 27 14.2	.723
21	16 35 36.19	21 30 47.9	.6585780	8 37.8	258 38 35.5	0 27 8.0	.723
22	16 35 23.71	21 30 34.8	.6596591	8 33.6	258 43 24.7	0 27 1.8	.723
23	16 35 11.98	21 30 23.1	.6607547	8 29.5	258 48 14.0	0 26 55.6	.723
24	16 35 1.01	21 30 13.0	.6618642	8 25.4	258 53 3.3	0 26 49.4	.723
25	16 34 50.80	21 30 4.4	.6629870	8 21.3	258 57 52.6	0 26 43.1	.723
26	16 34 41.35	21 29 57.3	.6641226	8 17.2	259 2 41.9	0 26 36.9	.723
27	16 34 32.68	21 29 51.8	.6652706	8 13.2	259 7 31.3	0 26 30.7	.723
28	16 34 24.78	21 29 47.8	.6664302	8 9.1	259 12 20.7	0 26 24.4	.723
29	16 34 17.65	21 29 45.4	.6676011	8 5.1	259 17 10.2	0 26 18.2	.723
30	16 34 11.31	21 29 44.6	.6687827	8 1.0	259 21 59.7	0 26 11.9	.723
31	16 34 5.74	21 29 45.3	.6699747	7 57.0	259 26 49.2	0 26 5.7	.723
32	16 34 0.95	S. 21 29 47.7	0.6711765	7 53.0	259 31 38.8	N. 0 25 59.4	0.723

JULY, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^m ^s 11 59 '81	^s — 1 '06	^s 1 '64	^o ['] ["] S. 21 39 25 '4	["] + 1 '5	["] 21 '1	["] 2 '0
11 34 '57	1 '04	1 '64	21 38 49 '0	1 '5	21 '1	2 '0
11 9 '86	1 '02	1 '64	21 38 13 '6	1 '5	21 '0	2 '0
10 45 '70	0 '99	1 '64	21 37 39 '0	1 '4	21 '0	2 '0
10 22 '12	0 '97	1 '63	21 37 5 '3	1 '4	21 '0	2 '0
39 59 '11	0 '95	1 '63	21 36 32 '6	1 '4	21 '0	2 '0
39 36 '69	0 '92	1 '63	21 36 0 '9	1 '3	21 '0	2 '0
39 14 '88	0 '90	1 '62	21 35 30 '3	1 '3	20 '9	2 '0
38 53 '68	0 '87	1 '62	21 35 0 '8	1 '2	20 '9	1 '9
38 33 '11	0 '84	1 '61	21 34 32 '4	1 '2	20 '8	1 '9
38 13 '19	0 '82	1 '61	21 34 5 '1	1 '1	20 '8	1 '9
37 53 '92	0 '79	1 '60	21 33 39 '1	1 '1	20 '7	1 '9
37 35 '31	0 '76	1 '60	21 33 14 '2	1 '0	20 '7	1 '9
37 17 '37	0 '73	1 '60	21 32 50 '6	1 '0	20 '6	1 '9
37 0 '13	0 '70	1 '60	21 32 28 '3	0 '9	20 '6	1 '9
36 43 '58	0 '67	1 '59	21 32 7 '4	0 '9	20 '5	1 '9
36 27 '74	0 '64	1 '59	21 31 47 '7	0 '8	20 '5	1 '9
36 12 '62	0 '62	1 '58	21 31 29 '4	0 '7	20 '4	1 '9
35 58 '22	0 '59	1 '58	21 31 12 '5	0 '7	20 '4	1 '9
35 44 '54	0 '55	1 '57	21 30 57 '0	0 '6	20 '3	1 '9
35 31 '61	0 '52	1 '57	21 30 43 '0	0 '6	20 '3	1 '9
35 19 '44	0 '49	1 '57	21 30 30 '5	0 '5	20 '2	1 '9
35 8 '01	0 '46	1 '57	21 30 19 '4	0 '4	20 '2	1 '9
34 57 '34	0 '43	1 '56	21 30 9 '8	0 '4	20 '1	1 '9
34 47 '42	0 '40	1 '56	21 30 1 '7	0 '3	20 '1	1 '9
34 38 '27	0 '37	1 '55	21 29 55 '2	0 '2	20 '0	1 '9
34 29 '89	0 '33	1 '55	21 29 50 '2	0 '2	20 '0	1 '9
34 22 '27	0 '30	1 '54	21 29 46 '7	+ 0 '1	19 '9	1 '9
34 15 '43	0 '27	1 '54	21 29 44 '9	0 '0	19 '8	1 '9
34 9 '36	0 '24	1 '54	21 29 44 '6	0 '0	19 '8	1 '9
34 4 '07	0 '20	1 '53	21 29 45 '9	— 0 '1	19 '8	1 '9
33 59 '55	— 0 '17	1 '52	S. 21 29 48 '8	— 0 '2	19 '7	1 '9

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad	
	Noon.	Noon.	Noon.		Noon.	Noon.	N	
	<i>h m s</i>	<i>° ′ ″</i>			<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	16 34 0 ^h 9 ^s	S. 21 29 47 [°] 7 [′]	0 ^h 6711765	7 53 ^h 0 ^m	259 31 38 [°] 8 [′]	N. 0 25 59 [°] 4 [′]	0 ^h 72	
2	16 33 56 ^h 9 ^s	21 29 51 [°] 6 [′]	6723877	7 49 ^h 0 ^m	259 36 28 [°] 4 [′]	0 25 53 [°] 2 [′]	72	
3	16 33 53 ^h 7 ^s	21 29 57 [°] 1 [′]	6736077	7 45 ^h 0 ^m	259 41 18 [°] 0 [′]	0 25 46 [°] 9 [′]	72	
4	16 33 51 ^h 30 ^s	21 30 4 [°] 2 [′]	6748362	7 41 ^h 1 ^m	259 46 7 [°] 7 [′]	0 25 40 [°] 6 [′]	72	
5	16 33 49 ^h 6 ^s	21 30 13 [°] 0 [′]	6760728	7 37 ^h 1 ^m	259 50 57 [°] 4 [′]	0 25 34 [°] 4 [′]	72	
6	16 33 48 ^h 7 ^s	21 30 23 [°] 3 [′]	6773169	7 33 ^h 2 ^m	259 55 47 [°] 1 [′]	0 25 28 [°] 1 [′]	72	
7	16 33 48 ^h 71 ^s	21 30 35 [°] 2 [′]	6785681	7 29 ^h 2 ^m	260 0 36 [°] 9 [′]	0 25 21 [°] 8 [′]	72	
8	16 33 49 ^h 42 ^s	21 30 48 [°] 7 [′]	6798260	7 25 ^h 3 ^m	260 5 26 [°] 8 [′]	0 25 15 [°] 5 [′]	72	
9	16 33 50 ^h 91 ^s	21 31 3 [°] 8 [′]	6810903	7 21 ^h 4 ^m	260 10 16 [°] 6 [′]	0 25 9 [°] 2 [′]	72	
10	16 33 53 ^h 18 ^s	21 31 20 [°] 5 [′]	6823603	7 17 ^h 5 ^m	260 15 6 [°] 5 [′]	0 25 2 [°] 9 [′]	72	
11	16 33 56 ^h 24 ^s	21 31 38 [°] 8 [′]	6836358	7 13 ^h 6 ^m	260 19 56 [°] 4 [′]	0 24 56 [°] 6 [′]	72	
12	16 34 0 ^h 09 ^s	21 31 58 [°] 7 [′]	6849162	7 9 ^h 8 ^m	260 24 46 [°] 4 [′]	0 24 50 [°] 3 [′]	72	
13	16 34 4 ^h 73 ^s	21 32 20 [°] 2 [′]	6862011	7 5 ^h 9 ^m	260 29 36 [°] 4 [′]	0 24 44 [°] 0 [′]	72	
14	16 34 10 ^h 14 ^s	21 32 43 [°] 2 [′]	6874901	7 2 ^h 1 ^m	260 34 26 [°] 4 [′]	0 24 37 [°] 7 [′]	72	
15	16 34 16 ^h 34 ^s	21 33 7 [°] 8 [′]	6887828	6 58 ^h 3 ^m	260 39 16 [°] 5 [′]	0 24 31 [°] 4 [′]	72	
16	16 34 23 ^h 33 ^s	21 33 33 [°] 9 [′]	6900786	6 54 ^h 5 ^m	260 44 6 [°] 6 [′]	0 24 25 [°] 1 [′]	72	
17	16 34 31 ^h 10 ^s	21 34 1 [°] 6 [′]	6913772	6 50 ^h 7 ^m	260 48 56 [°] 7 [′]	0 24 18 [°] 8 [′]	72	
18	16 34 39 ^h 65 ^s	21 34 30 [°] 8 [′]	6926781	6 46 ^h 9 ^m	260 53 46 [°] 9 [′]	0 24 12 [°] 5 [′]	72	
19	16 34 48 ^h 97 ^s	21 35 1 [°] 4 [′]	6939810	6 43 ^h 1 ^m	260 58 37 [°] 1 [′]	0 24 6 [°] 1 [′]	72	
20	16 34 59 ^h 06 ^s	21 35 33 [°] 6 [′]	6952853	6 39 ^h 3 ^m	261 3 27 [°] 4 [′]	0 23 59 [°] 8 [′]	72	
21	16 35 9 ^h 92 ^s	21 36 7 [°] 2 [′]	6965907	6 35 ^h 6 ^m	261 8 17 [°] 7 [′]	0 23 53 [°] 5 [′]	72	
22	16 35 21 ^h 54 ^s	21 36 42 [°] 3 [′]	6978967	6 31 ^h 9 ^m	261 13 8 [°] 0 [′]	0 23 47 [°] 2 [′]	72	
23	16 35 33 ^h 93 ^s	21 37 18 [°] 7 [′]	6992030	6 28 ^h 1 ^m	261 17 58 [°] 3 [′]	0 23 40 [°] 8 [′]	72	
24	16 35 47 ^h 07 ^s	21 37 56 [°] 6 [′]	7005093	6 24 ^h 4 ^m	261 22 48 [°] 7 [′]	0 23 34 [°] 5 [′]	72	
25	16 36 0 ^h 95 ^s	21 38 35 [°] 9 [′]	7018150	6 20 ^h 7 ^m	261 27 39 [°] 2 [′]	0 23 28 [°] 1 [′]	72	
26	16 36 15 ^h 59 ^s	21 39 16 [°] 5 [′]	7031199	6 17 ^h 0 ^m	261 32 29 [°] 6 [′]	0 23 21 [°] 8 [′]	72	
27	16 36 30 ^h 97 ^s	21 39 58 [°] 5 [′]	7044235	6 13 ^h 3 ^m	261 37 20 [°] 1 [′]	0 23 15 [°] 4 [′]	72	
28	16 36 47 ^h 07 ^s	21 40 41 [°] 8 [′]	7057256	6 9 ^h 7 ^m	261 42 10 [°] 7 [′]	0 23 9 [°] 1 [′]	72	
29	16 37 3 ^h 91 ^s	21 41 26 [°] 3 [′]	7070259	6 6 ^h 0 ^m	261 47 1 [°] 3 [′]	0 23 2 [°] 7 [′]	72	
30	16 37 21 ^h 47 ^s	21 42 12 [°] 2 [′]	7083241	6 2 ^h 4 ^m	261 51 51 [°] 9 [′]	0 22 56 [°] 3 [′]	72	
31	16 37 39 ^h 75 ^s	21 42 59 [°] 2 [′]	7096198	5 58 ^h 8 ^m	261 56 42 [°] 5 [′]	0 22 50 [°] 0 [′]	72	
32	16 37 58 ^h 74 ^s	S. 21 43 47 [°] 5 [′]	0 ^h 7109127	5 55 ^h 2 ^m	262 1 33 [°] 2 [′]	N. 0 22 43 [°] 6 [′]	0 ^h 72	

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
m s	s	s	° ' "	"	"	"
3 59 55	- 0 17	1 52	S. 21 29 48 8	- 0 2	19 7	1 8
3 55 81	0 14	1 51	21 29 53 2	0 2	19 7	1 8
3 52 85	0 11	1 50	21 29 59 2	0 3	19 6	1 8
3 50 68	0 07	1 50	21 30 6 8	0 4	19 6	1 8
3 49 29	0 04	1 50	21 30 16 1	0 4	19 5	1 8
3 48 68	- 0 01	1 50	21 30 26 9	0 5	19 5	1 8
3 48 85	+ 0 02	1 50	21 30 39 2	0 6	19 4	1 8
3 49 80	0 06	1 49	21 30 53 2	0 6	19 3	1 8
3 51 53	0 09	1 49	21 31 8 8	0 7	19 3	1 8
3 54 03	0 12	1 49	21 31 25 9	0 8	19 2	1 8
3 57 32	0 15	1 49	21 31 44 6	0 8	19 2	1 8
4 1 40	0 19	1 48	21 32 4 9	0 9	19 1	1 8
4 6 25	0 22	1 48	21 32 26 8	0 9	19 0	1 8
4 11 88	0 25	1 47	21 32 50 2	1 0	19 0	1 8
4 18 29	0 28	1 47	21 33 15 2	1 1	18 9	1 8
4 25 49	0 32	1 46	21 33 41 7	1 1	18 8	1 7
4 33 46	0 35	1 46	21 34 9 7	1 2	18 8	1 7
4 42 20	0 38	1 45	21 34 39 2	1 3	18 7	1 7
4 51 71	0 41	1 45	21 35 10 2	1 3	18 7	1 7
5 1 99	0 44	1 44	21 35 42 7	1 4	18 6	1 7
5 13 04	0 48	1 44	21 36 16 6	1 4	18 5	1 7
5 24 84	0 51	1 44	21 36 52 0	1 5	18 5	1 7
5 37 40	0 54	1 43	21 37 28 8	1 6	18 5	1 7
5 50 71	0 57	1 43	21 38 6 9	1 6	18 5	1 7
6 4 76	0 60	1 43	21 38 46 5	1 7	18 4	
6 19 55	0 63	1 42	21 39 27 4	1 7	18 3	
6 35 08	0 66	1 42	21 40 9 6	1 8	18 2	
6 51 33	0 69	1 41	21 40 53 1	1 8	18 1	
7 8 31	0 72	1 41	21 41 37 9	1 9		
7 26 01	0 75	1 40	21 42 23 9	1 9		
7 44 42	0 78	1 40	21 43 11 1	2 0		
8 3 54	+ 0 81	1 40	S. 21 43 59 6	- 2 0		

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	16 37 58.74	S. 21 43 47.5	0.7109127	5 55.2	262 1 33.2	N. 0 22 43.6	0.722
2	16 38 18.43	21 44 36.9	.7122026	5 51.6	262 6 23.9	0 22 37.2	.722
3	16 38 38.83	21 45 27.5	.7134893	5 48.0	262 11 14.7	0 22 30.8	.722
4	16 38 59.92	21 46 19.3	.7147724	5 44.4	262 16 5.5	0 22 24.4	.722
5	16 39 21.71	21 47 12.1	.7160516	5 40.8	262 20 56.4	0 22 18.0	.722
6	16 39 44.18	21 48 6.0	.7173268	5 37.2	262 25 47.2	0 22 11.7	.722
7	16 40 7.34	21 49 0.9	.7185976	5 33.7	262 30 38.1	0 22 5.3	.722
8	16 40 31.18	21 49 56.8	.7198639	5 30.2	262 35 29.1	0 21 58.9	.722
9	16 40 55.69	21 50 53.7	.7211252	5 26.7	262 40 20.1	0 21 52.5	.721
10	16 41 20.88	21 51 51.6	.7223814	5 23.2	262 45 11.1	0 21 46.1	.721
11	16 41 46.73	21 52 50.5	.7236321	5 19.7	262 50 2.2	0 21 39.7	.721
12	16 42 13.23	21 53 50.3	.7248770	5 16.2	262 54 53.3	0 21 33.2	.721
13	16 42 40.39	21 54 51.0	.7261160	5 12.7	262 59 44.4	0 21 26.8	.721
14	16 43 8.20	21 55 52.4	.7273486	5 9.2	263 4 35.6	0 21 20.4	.721
15	16 43 36.65	21 56 54.6	.7285747	5 5.8	263 9 26.8	0 21 14.0	.721
16	16 44 5.73	21 57 57.6	.7297939	5 2.3	263 14 18.0	0 21 7.6	.721
17	16 44 35.45	21 59 1.3	.7310061	4 58.9	263 19 9.3	0 21 1.1	.721
18	16 45 5.79	22 0 5.8	.7322109	4 55.4	263 24 0.6	0 20 54.7	.721
19	16 45 36.74	22 1 10.9	.7334083	4 52.0	263 28 52.0	0 20 48.3	.721
20	16 46 8.31	22 2 16.6	.7345978	4 48.6	263 33 43.4	0 20 41.8	.721
21	16 46 40.47	22 3 22.9	.7357794	4 45.2	263 38 34.9	0 20 35.4	.721
22	16 47 13.23	22 4 29.8	.7369528	4 41.8	263 43 26.3	0 20 29.0	.721
23	16 47 46.58	22 5 37.1	.7381178	4 38.5	263 48 17.9	0 20 22.5	.721
24	16 48 20.52	22 6 45.0	.7392742	4 35.1	263 53 9.4	0 20 16.1	.721
25	16 48 55.02	22 7 53.3	.7404219	4 31.8	263 58 1.0	0 20 9.6	.721
26	16 49 30.09	22 9 2.0	.7415606	4 28.4	264 2 52.6	0 20 3.1	.721
27	16 50 5.72	22 10 11.1	.7426903	4 25.1	264 7 44.3	0 19 56.7	.721
28	16 50 41.90	22 11 20.6	.7438108	4 21.7	264 12 36.0	0 19 50.2	.721
29	16 51 18.63	22 12 30.4	.7449219	4 18.4	264 17 27.8	0 19 43.8	.721
30	16 51 55.89	22 13 40.4	.7460234	4 15.1	264 22 19.6	0 19 37.3	.721
31	16 52 33.70	S. 22 14 50.7	0.7471152	4 11.8	264 27 11.4	N. 0 19 30.8	0.721

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 5 38 3 ^s 54	^s + 0 ^s 81	^s 1 ^s 40	[°] ['] ["] S. 21 43 59 ["] 6	["] — 2 ["] 0	["] 18 ["] 0	["] 1 ["] 7
5 38 23 ^s 35	0 ^s 84	1 ^s 40	21 44 49 ["] 2	2 ["] 1	18 ["] 0	1 ["] 7
5 38 43 ^s 87	0 ^s 87	1 ^s 39	21 45 39 ["] 9	2 ["] 1	17 ["] 9	1 ["] 7
5 39 5 ^s 08	0 ^s 90	1 ^s 38	21 46 31 ["] 8	2 ["] 2	17 ["] 8	1 ["] 6
5 39 26 ^s 98	0 ^s 93	1 ^s 38	21 47 24 ["] 8	2 ["] 2	17 ["] 8	1 ["] 6
5 39 49 ^s 55	0 ^s 95	1 ^s 37	21 48 18 ["] 8	2 ["] 3	17 ["] 7	1 ["] 6
5 40 12 ^s 81	0 ^s 98	1 ^s 37	21 49 13 ["] 8	2 ["] 3	17 ["] 7	1 ["] 6
5 40 36 ^s 75	1 ^s 01	1 ^s 37	21 50 9 ["] 8	2 ["] 4	17 ["] 6	1 ["] 6
5 41 1 ^s 35	1 ^s 04	1 ^s 37	21 51 6 ["] 8	2 ["] 4	17 ["] 6	1 ["] 6
5 41 26 ^s 62	1 ^s 07	1 ^s 36	21 52 4 ["] 7	2 ["] 4	17 ["] 5	1 ["] 6
5 41 52 ^s 56	1 ^s 09	1 ^s 36	21 53 3 ["] 7	2 ["] 5	17 ["] 4	1 ["] 6
5 42 19 ^s 14	1 ^s 12	1 ^s 36	21 54 3 ["] 5	2 ["] 5	17 ["] 4	1 ["] 6
5 42 46 ^s 37	1 ^s 15	1 ^s 35	21 55 4 ["] 2	2 ["] 5	17 ["] 3	1 ["] 6
5 43 14 ^s 25	1 ^s 17	1 ^s 35	21 56 5 ["] 6	2 ["] 6	17 ["] 3	1 ["] 6
5 43 42 ^s 77	1 ^s 20	1 ^s 34	21 57 7 ["] 8	2 ["] 6	17 ["] 2	1 ["] 6
5 44 11 ^s 92	1 ^s 23	1 ^s 34	21 58 10 ["] 8	2 ["] 6	17 ["] 2	1 ["] 6
5 44 41 ^s 69	1 ^s 25	1 ^s 33	21 59 14 ["] 5	2 ["] 7	17 ["] 2	1 ["] 6
5 45 12 ^s 08	1 ^s 28	1 ^s 32	22 0 19 ["] 0	2 ["] 7	17 ["] 1	1 ["] 6
5 45 43 ^s 09	1 ^s 30	1 ^s 32	22 1 24 ["] 1	2 ["] 7	17 ["] 1	1 ["] 6
5 46 14 ^s 71	1 ^s 33	1 ^s 32	22 2 29 ["] 8	2 ["] 8	17 ["] 1	1 ["] 6
5 46 46 ^s 91	1 ^s 35	1 ^s 31	22 3 36 ["] 1	2 ["] 8	17 ["] 0	1 ["] 6
5 47 19 ^s 71	1 ^s 38	1 ^s 31	22 4 43 ["] 0	2 ["] 8	17 ["] 0	1 ["] 6
5 47 53 ^s 10	1 ^s 40	1 ^s 31	22 5 50 ["] 3	2 ["] 8	16 ["] 9	1 ["] 6
5 48 27 ^s 07	1 ^s 43	1 ^s 31	22 6 58 ["] 1	2 ["] 8	16 ["] 9	1 ["] 6
5 49 1 ^s 60	1 ^s 45	1 ^s 30	22 8 6 ["] 3	2 ["] 9	16 ["] 8	1 ["] 6
5 49 36 ^s 69	1 ^s 47	1 ^s 30	22 9 14 ["] 9	2 ["] 9	16 ["] 8	1 ["] 6
5 50 12 ^s 34	1 ^s 50	1 ^s 29	22 10 23 ["] 9	2 ["] 9	16 ["] 7	1 ["] 6
5 50 48 ^s 54	1 ^s 52	1 ^s 29	22 11 33 ["] 3	2 ["] 9		
5 51 25 ^s 28	1 ^s 54	1 ^s 28	22 12 43 ["] 0	2 ["] 9		
5 52 2 ^s 55	1 ^s 56	1 ^s 28	22 13 52 ["] 8	2 ["]		
5 52 40 ^s 36	+ 1 ^s 59	1 ^s 28	S. 22 15 3 ["] 0	—		

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	N	
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]		
1	16 52 33.70	S. 22 14 50.7	0.7471152	4 11.8	264 27 11.4	N. 0 19 30.8	0.72	
2	16 53 12.03	22 16 1.2	.7481972	4 8.5	264 32 3.3	0 19 24.3	.72	
3	16 53 50.88	22 17 11.9	.7492692	4 5.2	264 36 55.2	0 19 17.9	.72	
4	16 54 30.25	22 18 22.8	.7503312	4 1.9	264 41 47.1	0 19 11.4	.72	
5	16 55 10.13	22 19 33.8	.7513829	3 58.7	264 46 39.1	0 19 4.9	.72	
6	16 55 50.51	22 20 44.8	.7524243	3 55.4	264 51 31.1	0 18 58.4	.72	
7	16 56 31.39	22 21 55.9	.7534552	3 52.2	264 56 23.2	0 18 51.9	.72	
8	16 57 12.76	22 23 7.0	.7544756	3 48.9	265 1 15.3	0 18 45.4	.72	
9	16 57 54.62	22 24 18.1	.7554852	3 45.7	265 6 7.4	0 18 38.9	.72	
10	16 58 36.97	22 25 29.2	.7564838	3 42.4	265 10 59.6	0 18 32.4	.72	
11	16 59 19.78	22 26 40.2	.7574713	3 39.2	265 15 51.8	0 18 25.9	.72	
12	17 0 3.07	22 27 51.0	.7584476	3 36.0	265 20 44.1	0 18 19.4	.72	
13	17 0 46.82	22 29 1.7	.7594124	3 32.8	265 25 36.4	0 18 12.9	.72	
14	17 1 31.03	22 30 12.2	.7603656	3 29.6	265 30 28.7	0 18 6.4	.72	
15	17 2 15.69	22 31 22.5	.7613071	3 26.4	265 35 21.1	0 17 59.9	.72	
16	17 3 0.80	22 32 32.5	.7622367	3 23.2	265 40 13.5	0 17 53.3	.72	
17	17 3 46.34	22 33 42.3	.7631543	3 20.1	265 45 6.0	0 17 46.8	.72	
18	17 4 32.31	22 34 51.7	.7640599	3 16.9	265 49 58.5	0 17 40.3	.72	
19	17 5 18.70	22 36 0.8	.7649534	3 13.7	265 54 51.0	0 17 33.8	.72	
20	17 6 5.50	22 37 9.5	.7658345	3 10.5	265 59 43.6	0 17 27.2	.72	
21	17 6 52.72	22 38 17.8	.7667031	3 7.4	266 4 36.3	0 17 20.7	.72	
22	17 7 40.33	22 39 25.7	.7675593	3 4.2	266 9 28.9	0 17 14.2	.72	
23	17 8 28.33	22 40 33.1	.7684030	3 1.1	266 14 21.6	0 17 7.6	.72	
24	17 9 16.72	22 41 40.0	.7692340	2 58.0	266 19 14.4	0 17 1.1	.72	
25	17 10 5.49	22 42 46.4	.7700522	2 54.9	266 24 7.2	0 16 54.5	.72	
26	17 10 54.63	22 43 52.2	.7708576	2 51.8	266 29 0.0	0 16 48.0	.72	
27	17 11 44.14	22 44 57.4	.7716502	2 48.7	266 33 52.9	0 16 41.4	.72	
28	17 12 34.01	22 46 1.9	.7724299	2 45.6	266 38 45.8	0 16 34.9	.72	
29	17 13 24.23	22 47 5.8	.7731966	2 42.5	266 43 38.7	0 16 28.3	.72	
30	17 14 14.80	22 48 9.1	.7739503	2 39.4	266 48 31.7	0 16 21.8	.72	
31	17 15 5.71	22 49 11.6	.7746909	2 36.3	266 53 24.7	0 16 15.2	.72	
32	17 15 56.96	S. 22 50 13.4	0.7754184	2 33.2	266 58 17.8	N. 0 16 8.6	0.72	

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

JOURNAL.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
	16 52 40·36	+ 1·59	1·28	S. 22 15 3·0	— 2·9	16·5	1·5
	16 53 18·70	1·61	1·28	22 16 13·4	2·9	16·5	1·5
	16 53 57·55	1·63	1·28	22 17 24·0	2·9	16·5	1·5
	16 54 36·92	1·65	1·27	22 18 34·7	3·0	16·4	1·5
	16 55 16·79	1·67	1·27	22 19 45·6	3·0	16·4	1·5
	16 55 57·16	1·69	1·26	22 20 56·5	3·0	16·3	1·5
	16 56 38·03	1·71	1·26	22 22 7·4	3·0	16·3	1·5
	16 57 19·39	1·73	1·25	22 23 18·3	3·0	16·2	1·5
	16 58 1·23	1·75	1·25	22 24 29·3	3·0	16·2	1·5
	16 58 43·55	1·77	1·25	22 25 40·2	3·0	16·2	1·5
	16 59 26·34	1·79	1·25	22 26 51·0	3·0	16·1	1·5
	17 0 9·60	1·81	1·25	22 28 1·6	2·9	16·1	1·5
	17 0 53·32	1·83	1·25	22 29 12·1	2·9	16·1	1·5
	17 1 37·50	1·85	1·24	22 30 22·4	2·9	16·0	1·5
	17 2 22·13	1·87	1·24	22 31 32·5	2·9	16·0	1·5
	17 3 7·20	1·89	1·24	22 32 42·3	2·9	15·9	1·5
	17 3 52·70	1·90	1·24	22 33 51·9	2·9	15·9	1·5
	17 4 38·63	1·92	1·24	22 35 1·1	2·9	15·9	1·5
	17 5 24·98	1·94	1·23	22 36 10·0	2·9	15·9	1·5
	17 6 11·74	1·96	1·23	22 37 18·5	2·9	15·9	1·5
	17 6 58·90	1·97	1·23	22 38 26·6	2·8	15·9	1·5
	17 7 46·46	1·99	1·23	22 39 34·3	2·8	15·8	1·5
	17 8 34·40	2·00	1·23	22 40 41·5	2·8	15·8	1·5
	17 9 22·73	2·02	1·23	22 41 48·2	2·8	15·8	1·5
	17 10 11·44	2·03	1·22	22 42 54·4	2·8	15·7	1·4
	17 11 0·52	2·05	1·22	22 44 0·0	2·7	15·7	1·4
	17 11 49·96	2·07	1·22	22 45 5·0	2·7	15·7	1·4
	17 12 39·76	2·08	1·22	22 46 9·2	2·7	15·7	1·4
	17 13 29·92	2·10	1·22	22 47 12·9	2·6	15·6	1·4
	17 14 20·42	2·11	1·22	22 48 16·0	2·6	15·6	1·4
	17 15 11·26	2·13	1·22	22 49 18·3	2·6	15·6	1·4
	17 16 2·43	+ 2·14	1·21	S. 22 50 19·9	— 2·6	15·5	1·4

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 15 56.96	S. 22 50 13.4	0.7754184	2 33.2	266 58 17.8	N. 0 16 8.6	0.720
2	17 16 48.53	22 51 14.5	.7761327	2 30.2	267 3 10.9	0 16 2.1	.720
3	17 17 40.44	22 52 14.8	.7768336	2 27.1	267 8 4.1	0 15 55.5	.720
4	17 18 32.66	22 53 14.4	.7775212	2 24.0	267 12 57.3	0 15 48.9	.720
5	17 19 25.19	22 54 13.1	.7781954	2 20.9	267 17 50.5	0 15 42.3	.720
6	17 20 18.03	22 55 10.9	.7788560	2 17.9	267 22 43.8	0 15 35.8	.720
7	17 21 11.18	22 56 7.9	.7795030	2 14.8	267 27 37.1	0 15 29.2	.720
8	17 22 4.62	22 57 3.9	.7801363	2 11.8	267 32 30.4	0 15 22.6	.720
9	17 22 58.35	22 57 59.1	.7807559	2 8.7	267 37 23.8	0 15 16.0	.720
10	17 23 52.37	22 58 53.3	.7813616	2 5.7	267 42 17.3	0 15 9.4	.720
11	17 24 46.66	22 59 46.5	.7819533	2 2.7	267 47 10.8	0 15 2.8	.720
12	17 25 41.23	23 0 38.7	.7825310	1 59.7	267 52 4.3	0 14 56.2	.720
13	17 26 36.06	23 1 29.9	.7830946	1 56.6	267 56 57.8	0 14 49.6	.720
14	17 27 31.15	23 2 20.0	.7836440	1 53.6	268 1 51.4	0 14 43.0	.720
15	17 28 26.50	23 3 9.1	.7841792	1 50.6	268 6 45.1	0 14 36.4	.720
16	17 29 22.08	23 3 57.0	.7847001	1 47.6	268 11 38.8	0 14 29.8	.720
17	17 30 17.90	23 4 43.9	.7852067	1 44.6	268 16 32.5	0 14 23.2	.719
18	17 31 13.95	23 5 29.7	.7856990	1 41.6	268 21 26.3	0 14 16.6	.719
19	17 32 10.22	23 6 14.3	.7861768	1 38.6	268 26 20.1	0 14 9.9	.719
20	17 33 6.71	23 6 57.8	.7866402	1 35.6	268 31 13.9	0 14 3.3	.719
21	17 34 3.40	23 7 40.1	.7870892	1 32.6	268 36 7.8	0 13 56.7	.719
22	17 35 0.30	23 8 21.2	.7875236	1 29.6	268 41 1.8	0 13 50.1	.719
23	17 35 57.39	23 9 1.1	.7879436	1 26.6	268 45 55.7	0 13 43.4	.719
24	17 36 54.67	23 9 39.8	.7883490	1 23.7	268 50 49.8	0 13 36.8	.719
25	17 37 52.13	23 10 17.2	.7887399	1 20.7	268 55 43.8	0 13 30.2	.719
26	17 38 49.77	23 10 53.4	.7891162	1 17.7	269 0 37.9	0 13 23.5	.719
27	17 39 47.58	23 11 28.2	.7894779	1 14.7	269 5 32.0	0 13 16.9	.719
28	17 40 45.56	23 12 1.8	.7898251	1 11.8	269 10 26.2	0 13 10.3	.719
29	17 41 43.70	23 12 34.1	.7901577	1 8.8	269 15 20.4	0 13 3.6	.719
30	17 42 41.99	23 13 5.1	.7904756	1 5.8	269 20 14.7	0 12 57.0	.719
31	17 43 40.43	S. 23 13 34.8	0.7907790	1 2.8	269 25 9.0	N. 0 12 50.3	0.719

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	17 16 2.43	+ 2.14	1.21	S. 22 50 19.9	- 2.6	15.5	1.4
2	17 16 53.92	2.15	1.21	22 51 20.8	2.5	15.5	1.4
3	17 17 45.75	2.17	1.21	22 52 20.9	2.5	15.5	1.4
4	17 18 37.89	2.18	1.20	22 53 20.3	2.5	15.4	1.4
5	17 19 30.34	2.19	1.20	22 54 18.8	2.4	15.4	1.4
6	17 20 23.10	2.20	1.20	22 55 16.4	2.4	15.4	1.4
7	17 21 16.17	2.22	1.20	22 56 13.2	2.4	15.4	1.4
8	17 22 9.53	2.23	1.20	22 57 9.0	2.3	15.4	1.4
9	17 23 3.17	2.24	1.19	22 58 4.0	2.3	15.3	1.4
10	17 23 57.10	2.25	1.19	22 58 58.0	2.2	15.3	1.4
11	17 24 51.30	2.26	1.19	22 59 51.0	2.2	15.3	1.4
12	17 25 45.78	2.28	1.19	23 0 43.0	2.2	15.3	1.4
13	17 26 40.52	2.29	1.19	23 1 34.0	2.1	15.2	1.4
14	17 27 35.52	2.30	1.19	23 2 23.9	2.1	15.2	1.4
15	17 28 30.76	2.31	1.19	23 3 12.8	2.0	15.2	1.4
16	17 29 26.24	2.32	1.19	23 4 0.5	2.0	15.2	1.4
17	17 30 21.96	2.33	1.18	23 4 47.2	1.9	15.1	1.4
18	17 31 17.91	2.34	1.18	23 5 32.8	1.9	15.1	1.4
19	17 32 14.08	2.34	1.18	23 6 17.2	1.8	15.1	1.4
20	17 33 10.46	2.35	1.18	23 7 0.5	1.8	15.1	1.4
21	17 34 7.05	2.36	1.18	23 7 42.7	1.7	15.1	1.4
22	17 35 3.85	2.37	1.18	23 8 23.7	1.7	15.1	1.4
23	17 36 0.83	2.38	1.18	23 9 3.4	1.6	15.1	1.4
24	17 36 58.00	2.39	1.17	23 9 42.0	1.6	15.0	1.4
25	17 37 55.35	2.39	1.17	23 10 19.3	1.5		
26	17 38 52.88	2.40	1.17	23 10 55.3	1.5		
27	17 39 50.58	2.40	1.17	23 11 30.0	1.4		
28	17 40 48.45	2.41	1.17	23 12 3.4	1.4		
29	17 41 46.48	2.42	1.17	23 12 35.6	1		
30	17 42 44.66	2.43	1.17	23 13 6.5	1		
31	17 43 42.99	+ 2.43	1.16	S. 23 13 36.0	-		

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vel.	
	Noon.	Noon.	Noon.					
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]		
1	17 43 40.43	S. 23 13 34.8	0.7907790	1 2.8	269 25 9.0	N. 0 12 50.3	0.7195	
2	17 44 39.02	23 14 3.1	.7910676	0 59.9	269 30 3.4	0 12 43.7	.7195	
3	17 45 37.75	23 14 30.1	.7913416	0 56.9	269 34 57.7	0 12 37.0	.7193	
4	17 46 36.61	23 14 55.7	.7916008	0 54.0	269 39 52.2	0 12 30.4	.7194	
5	17 47 35.59	23 15 19.9	.7918452	0 51.0	269 44 46.6	0 12 23.7	.7194	
6	17 48 34.69	23 15 42.8	.7920747	0 48.1	269 49 41.1	0 12 17.1	.7194	
7	17 49 33.91	23 16 4.3	.7922894	0 45.1	269 54 35.7	0 12 10.4	.7193	
8	17 50 33.24	23 16 24.4	.7924891	0 42.2	269 59 30.3	0 12 3.7	.7193	
9	17 51 32.68	23 16 43.0	.7926738	0 39.2	270 4 24.9	0 11 57.1	.7193	
10	17 52 32.21	23 17 0.3	.7928435	0 36.3	270 9 19.6	0 11 50.4	.7193	
11	17 53 31.82	23 17 16.1	.7929982	0 33.3	270 14 14.3	0 11 43.7	.7193	
12	17 54 31.52	23 17 30.5	.7931378	0 30.4	270 19 9.0	0 11 37.0	.7193	
13	17 55 31.30	23 17 43.4	.7932622	0 27.4	270 24 3.8	0 11 30.4	.7193	
14	17 56 31.14	23 17 54.9	.7933714	0 24.5	270 28 58.7	0 11 23.7	.7191	
15	17 57 31.04	23 18 4.9	.7934655	0 21.5	270 33 53.6	0 11 17.0	.7191	
16	17 58 31.00	23 18 13.4	.7935445	0 18.6	270 38 48.5	0 11 10.3	.7191	
17	17 59 31.01	23 18 20.5	.7936083	0 15.7	270 43 43.4	0 11 3.7	.7190	
18	18 0 31.05	23 18 26.2	.7936569	0 12.8	270 48 38.4	0 10 57.0	.7190	
19	18 1 31.13	23 18 30.4	.7936904	0 9.8	270 53 33.5	0 10 50.3	.7190	
20	18 2 31.24	23 18 33.2	.7937087	0 6.9	270 58 28.5	0 10 43.6	.7190	
21	18 3 31.37	23 18 34.5	.7937120	0 4.0	271 3 23.7	0 10 36.9	.7189	
22	18 4 31.51	23 18 34.3	.7937001	$\left\{ \begin{smallmatrix} 0 & 1.1 \\ 20 & 50.1 \end{smallmatrix} \right\}$	271 8 18.8	0 10 30.2	.7189	
23	18 5 31.66	23 18 32.7	.7936731	23 55.2	271 13 14.0	0 10 23.5	.7189	
24	18 6 31.81	23 18 29.7	.7936311	23 52.3	271 18 9.3	0 10 16.8	.7188	
25	18 7 31.96	23 18 25.2	.7935740	23 49.3	271 23 4.6	0 10 10.1	.7188	
26	18 8 32.10	23 18 19.2	.7935019	23 46.4	271 27 59.9	0 10 3.4	.7188	
27	18 9 32.22	23 18 11.8	.7934147	23 43.4	271 32 55.2	0 9 56.7	.7187	
28	18 10 32.32	23 18 2.9	.7933125	23 40.5	271 37 50.6	0 9 50.0	.7187	
29	18 11 32.40	23 17 52.6	.7931953	23 37.5	271 42 46.1	0 9 43.3	.7187	
30	18 12 32.44	23 17 40.9	.7930631	23 34.6	271 47 41.6	0 9 36.6	.7187	
31	18 13 32.45	23 17 27.7	.7929159	23 31.6	271 52 37.1	0 9 29.8	.7186	
32	18 14 32.42	S. 23 17 13.2	0.7927537	23 28.7	271 57 32.7	N. 0 9 23.1	0.7186	

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
17 43 42.99	+ 2.43	1.16	S. 23 13 36.0	- 1.2	14.9	1.4
17 44 41.46	2.44	1.16	23 14 4.2	1.2	14.9	1.4
17 45 40.07	2.45	1.16	23 14 31.1	1.1	14.9	1.4
17 46 38.82	2.45	1.16	23 14 56.6	1.0	14.9	1.4
17 47 37.69	2.46	1.16	23 15 20.7	1.0	14.9	1.4
17 48 36.67	2.46	1.16	23 15 43.5	0.9	14.9	1.4
17 49 35.77	2.46	1.16	23 16 4.9	0.9	14.9	1.4
17 50 34.98	2.47	1.16	23 16 24.9	0.8	14.9	1.4
17 51 34.30	2.47	1.16	23 16 43.5	0.7	14.9	1.4
17 52 33.71	2.48	1.16	23 17 0.7	0.7	14.9	1.4
17 53 33.20	2.48	1.16	23 17 16.5	0.6	14.9	1.4
17 54 32.78	2.48	1.16	23 17 30.8	0.6	14.9	1.4
17 55 32.44	2.49	1.16	23 17 43.7	0.5	14.8	1.4
17 56 32.16	2.49	1.16	23 17 55.1	0.4	14.8	1.4
17 57 31.94	2.49	1.16	23 18 5.1	0.4	14.8	1.4
17 58 31.77	2.49	1.16	23 18 13.6	0.3	14.8	1.4
17 59 31.66	2.50	1.16	23 18 20.6	0.3	14.8	1.4
18 0 31.58	2.50	1.16	23 18 26.2	0.2	14.8	1.4
18 1 31.54	2.50	1.16	23 18 30.4	0.2	14.8	1.4
18 2 31.53	2.50	1.16	23 18 33.2	- 0.1	14.8	1.4
18 3 31.54	2.50	1.16	23 18 34.5	0.0	14.8	1.4
{ 18 4 31.55 }	{ 2.50 }	{ 1.16 }	{ 23 18 34.8 }	{ + 0.1 }	{ 14.8 }	{ 1.4 }
{ 18 5 31.58 }	{ 2.50 }	{ 1.16 }	{ 23 18 32.7 }	{ 0.2 }	{ 14.8 }	{ 1.4 }
18 6 31.61	2.50	1.16	23 18 29.7	0.2	14.8	1.4
18 7 31.64	2.50	1.16	23 18 25.2	0.2	14.8	1.4
18 8 31.66	2.50	1.16	23 18 19.2	0.3	14.8	1.4
18 9 31.66	2.50	1.16	23 18 11.8	0.3	14.8	1.4
18 10 31.63	2.50	1.16	23 18 3.0	0.4	14.8	1.4
18 11 31.58	2.50	1.16	23 17 52.7	0.4	14.8	1.4
18 12 31.50	2.50	1.16	23 17 41.0	0.5	14.9	1.4
18 13 31.39	2.49	1.16	23 17 27.9	0.6	14.9	1.4
18 14 31.24	2.49	1.16	23 17 13.3	0.6	14.9	1.4
18 15 31.04	+ 2.49	1.16	S. 23 16 57.4	+ 0.7	14.9	1.4

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	^h ^m ^s	[°] ['] ["]			^h ^m	[°] ['] ["]	[°] ['] ["]
1	17 43 4.21	S. 22 20 59.1	1.0421570	22 55.9	264 39 12.4	N. 1 9 13.2	1.00
2	17 43 34.09	22 21 13.3	.0419814	22 52.5	264 41 0.6	1 9 9.1	.00
3	17 44 3.88	22 21 27.1	.0417957	22 49.1	264 42 48.8	1 9 4.9	.00
4	17 44 33.58	22 21 40.4	.0416001	22 45.6	264 44 37.1	1 9 0.7	.00
5	17 45 3.19	22 21 53.3	.0413945	22 42.1	264 46 25.5	1 8 56.6	.00
6	17 45 32.70	22 22 5.7	.0411791	22 38.6	264 48 13.8	1 8 52.4	.00
7	17 46 2.10	22 22 17.6	.0409537	22 35.2	264 50 2.1	1 8 48.2	.00
8	17 46 31.39	22 22 29.1	.0407185	22 31.8	264 51 50.4	1 8 44.0	.00
9	17 47 0.57	22 22 40.1	.0404735	22 28.4	264 53 38.6	1 8 39.9	.00
10	17 47 29.63	22 22 50.7	.0402188	22 24.9	264 55 26.9	1 8 35.7	.00
11	17 47 58.56	22 23 0.8	.0399544	22 21.5	264 57 15.1	1 8 31.5	.00
12	17 48 27.36	22 23 10.4	.0396803	22 18.0	264 59 3.4	1 8 27.3	.00
13	17 48 56.03	22 23 19.6	.0393965	22 14.6	265 0 51.6	1 8 23.2	.00
14	17 49 24.56	22 23 28.3	.0391031	22 11.1	265 2 39.9	1 8 19.0	.00
15	17 49 52.94	22 23 36.6	.0388001	22 7.7	265 4 28.1	1 8 14.8	.00
16	17 50 21.18	22 23 44.4	.0384875	22 4.2	265 6 16.3	1 8 10.6	.00
17	17 50 49.26	22 23 51.8	.0381653	22 0.7	265 8 4.6	1 8 6.5	.00
18	17 51 17.19	22 23 58.8	.0378336	21 57.2	265 9 52.8	1 8 2.3	.00
19	17 51 44.94	22 24 5.4	.0374926	21 53.7	265 11 41.0	1 7 58.1	.00
20	17 52 12.53	22 24 11.5	.0371421	21 50.2	265 13 29.3	1 7 53.9	.00
21	17 52 39.94	22 24 17.3	.0367824	21 46.8	265 15 17.5	1 7 49.7	.00
22	17 53 7.17	22 24 22.6	.0364135	21 43.3	265 17 5.7	1 7 45.5	.00
23	17 53 34.21	22 24 27.5	.0360355	21 39.8	265 18 54.0	1 7 41.3	.00
24	17 54 1.06	22 24 32.0	.0356484	21 36.3	265 20 42.2	1 7 37.2	.00
25	17 54 27.71	22 24 36.2	.0352523	21 32.8	265 22 30.4	1 7 33.0	.00
26	17 54 54.16	22 24 39.9	.0348473	21 29.3	265 24 18.6	1 7 28.8	.00
27	17 55 20.40	22 24 43.3	.0344335	21 25.8	265 26 6.8	1 7 24.6	.00
28	17 55 46.43	22 24 46.3	.0340109	21 22.3	265 27 55.0	1 7 20.4	.00
29	17 56 12.24	22 24 48.9	.0335796	21 18.8	265 29 43.2	1 7 16.2	.00
30	17 56 37.84	22 24 51.2	.0331396	21 15.3	265 31 31.5	1 7 12.0	.00
31	17 57 3.21	22 24 53.2	.0326913	21 11.8	265 33 19.7	1 7 7.8	.00
32	17 57 28.34	S. 22 24 54.8	1.0322345	21 8.3	265 35 7.9	N. 1 7 3.6	1.00

JANUARY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 17 43 32·76	^s + 1·24	^s 0·53	[°] ['] ["] S. 22 21 12·6	["] — 0·6	["] 6·8	["] 0·8
17 44 2·48	1·24	0·53	22 21 26·5	0·6	6·8	0·8
17 44 32·11	1·23	0·53	22 21 39·8	0·6	6·8	0·8
17 45 1·66	1·23	0·53	22 21 52·6	0·6	6·8	0·8
17 45 31·10	1·22	0·53	22 22 5·0	0·5	6·8	0·8
17 46 0·44	1·22	0·53	22 22 16·9	0·5	6·8	0·8
17 46 29·67	1·21	0·53	22 22 28·4	0·5	6·8	0·8
17 46 58·79	1·21	0·53	22 22 39·4	0·5	6·8	0·8
17 47 27·79	1·20	0·53	22 22 50·0	0·4	6·8	0·8
17 47 56·66	1·20	0·53	22 23 0·1	0·4	6·9	0·8
17 48 25·40	1·19	0·53	22 23 9·8	0·4	6·9	0·8
17 48 54·01	1·19	0·53	22 23 19·0	0·4	6·9	0·8
17 49 22·48	1·18	0·53	22 23 27·7	0·4	6·9	0·8
17 49 50·80	1·18	0·53	22 23 36·0	0·3	6·9	0·8
17 50 18·98	1·17	0·54	22 23 43·8	0·3	6·9	0·8
17 50 47·01	1·16	0·54	22 23 51·2	0·3	6·9	0·8
17 51 14·88	1·16	0·54	22 23 58·3	0·3	6·9	0·8
17 51 42·58	1·15	0·54	22 24 4·9	0·3	6·9	0·8
17 52 10·12	1·14	0·54	22 24 11·0	0·2	6·9	0·8
17 52 37·48	1·14	0·54	22 24 16·8	0·2	6·9	0·8
17 53 4·66	1·13	0·54	22 24 22·1	0·2	6·9	0·8
17 53 31·65	1·12	0·54	22 24 27·0	0·2	6·9	0·8
17 53 58·45	1·12	0·54	22 24 31·6	0·2	6·9	0·8
17 54 25·05	1·11	0·54	22 24 35·8	0·2	6·9	0·8
17 54 51·46	1·10	0·54	22 24 39·5	0·1	6·9	0·8
17 55 17·66	1·09	0·54	22 24 42·9	0·1	6·9	0·8
17 55 43·65	1·08	0·54	22 24 46·0	0·1	6·9	0·8
17 56 9·42	1·07	0·54	22 24 48·6	0·1	7·0	
17 56 34·98	1·06	0·54	22 24 50·9	0·1	7·0	
17 57 0·31	1·05	0·54	22 24 53·0	0·1	7·0	
17 57 25·41	1·04	0·54	22 24 54·6	0·1	7·0	
17 57 50·29	+ 1·03	0·54	S. 22 24 55·9	— 0·1	7	

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 57 28.34	S. 22 24 54.8	1.0322345	21 8.3	265 35 7.9	N. 1 7 3.6	1.0031
2	17 57 53.25	22 24 56.1	.0317694	21 4.8	265 36 56.1	1 6 59.4	.0031
3	17 58 17.91	22 24 57.1	.0312962	21 1.2	265 38 44.3	1 6 55.2	.0031
4	17 58 42.33	22 24 57.8	.0308150	20 57.7	265 40 32.5	1 6 51.0	.0031
5	17 59 6.50	22 24 58.1	.0303258	20 54.2	265 42 20.7	1 6 46.8	.0031
6	17 59 30.43	22 24 58.2	.0298286	20 50.7	265 44 8.8	1 6 42.6	.0031
7	17 59 54.09	22 24 58.0	.0293237	20 47.1	265 45 57.0	1 6 38.4	.0031
8	18 0 17.50	22 24 57.5	.0288110	20 43.5	265 47 45.2	1 6 34.2	.0031
9	18 0 40.64	22 24 56.7	.0282906	20 40.0	265 49 33.4	1 6 30.0	.0031
10	18 1 3.52	22 24 55.6	.0277626	20 36.4	265 51 21.6	1 6 25.8	.0031
11	18 1 26.12	22 24 54.3	.0272271	20 32.9	265 53 9.8	1 6 21.6	.0031
12	18 1 48.45	22 24 52.7	.0266842	20 29.3	265 54 57.9	1 6 17.4	.0031
13	18 2 10.49	22 24 50.9	.0261341	20 25.8	265 56 46.1	1 6 13.2	.0031
14	18 2 32.25	22 24 48.8	.0255767	20 22.2	265 58 34.3	1 6 8.9	.0031
15	18 2 53.71	22 24 46.5	.0250122	20 18.6	266 0 22.5	1 6 4.7	.0031
16	18 3 14.87	22 24 44.0	.0244407	20 15.0	266 2 10.6	1 6 0.5	.0031
17	18 3 35.74	22 24 41.2	.0238624	20 11.4	266 3 58.8	1 5 56.3	.0031
18	18 3 56.29	22 24 38.3	.0232773	20 7.8	266 5 47.0	1 5 52.1	.0031
19	18 4 16.54	22 24 35.2	.0226857	20 4.2	266 7 35.1	1 5 47.9	.0031
20	18 4 36.47	22 24 31.9	.0220875	20 0.6	266 9 23.3	1 5 43.7	.0031
21	18 4 56.08	22 24 28.4	.0214830	19 57.0	266 11 11.4	1 5 39.4	.0031
22	18 5 15.37	22 24 24.8	.0208723	19 53.4	266 12 59.6	1 5 35.2	.0031
23	18 5 34.33	22 24 21.0	.0202555	19 49.8	266 14 47.8	1 5 31.0	.0031
24	18 5 52.97	22 24 17.1	.0196328	19 46.2	266 16 35.9	1 5 26.8	.0031
25	18 6 11.26	22 24 13.0	.0190044	19 42.6	266 18 24.1	1 5 22.6	.0031
26	18 6 29.22	22 24 8.8	.0183704	19 38.9	266 20 12.2	1 5 18.3	.0031
27	18 6 46.83	22 24 4.5	.0177310	19 35.2	266 22 0.4	1 5 14.1	.0031
28	18 7 4.09	22 24 0.1	.0170863	19 31.6	266 23 48.5	1 5 9.9	.0031
29	18 7 21.01	S. 22 23 55.6	1.0164366	19 28.0	266 25 36.7	N. 1 5 5.7	1.0031

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
1	^h 17 ^m 57 ^s 50·29	^s + 1·03	^s 0·54	S. [°] 22 ['] 24 ["] 55·9	["] - 0·1	["] 7·0	["] 0·8
2	17 58 14·92	1·02	0·54	22 24 57·0	0·0	7·0	0·8
3	17 58 39·31	1·01	0·54	22 24 57·7	0·0	7·0	0·8
4	17 59 3·45	1·00	0·55	22 24 58·0	0·0	7·0	0·8
5	17 59 27·35	0·99	0·55	22 24 58·2	0·0	7·0	0·8
6	17 59 50·99	0·98	0·55	22 24 58·0	0·0	7·0	0·8
7	18 0 14·38	0·97	0·55	22 24 57·6	0·0	7·0	0·8
8	18 0 37·50	0·96	0·55	22 24 56·8	0·0	7·0	0·8
9	18 1 0·36	0·95	0·55	22 24 55·8	0·0	7·0	0·8
10	18 1 22·95	0·94	0·55	22 24 54·5	+ 0·1	7·1	0·8
11	18 1 45·26	0·92	0·55	22 24 53·0	0·1	7·1	0·8
12	18 2 7·29	0·91	0·55	22 24 51·2	0·1	7·1	0·8
13	18 2 29·04	0·89	0·55	22 24 49·1	0·1	7·1	0·8
14	18 2 50·49	0·88	0·55	22 24 46·9	0·1	7·1	0·8
15	18 3 11·64	0·87	0·55	22 24 44·4	0·1	7·1	0·8
16	18 3 32·50	0·86	0·55	22 24 41·6	0·1	7·1	0·8
17	18 3 53·04	0·85	0·55	22 24 38·8	0·1	7·1	0·8
18	18 4 13·29	0·84	0·55	22 24 35·7	0·1	7·1	0·8
19	18 4 33·22	0·83	0·56	22 24 32·4	0·1	7·1	0·8
20	18 4 52·83	0·82	0·56	22 24 29·0	0·1	7·1	0·8
21	18 5 12·13	0·80	0·56	22 24 25·4	0·2	7·2	0·8
22	18 5 31·10	0·79	0·56	22 24 21·6	0·2	7·2	0·8
23	18 5 49·75	0·77	0·56	22 24 17·8	0·2	7·2	0·8
24	18 6 8·06	0·76	0·56	22 24 13·7	0·2	7·2	0·8
25	18 6 26·04	0·74	0·56	22 24 9·5	0·2	7·2	0·8
26	18 6 43·67	0·73	0·56	22 24 5·3	0·2	7·2	0·8
27	18 7 0·95	0·71	0·56	22 24 0·9	0·2	7·2	0·8
28	18 7 17·89	0·70	0·56	22 23 56·4	0·2	7·2	0·8
29	18 7 34·47	+ 0·68	0·56	S. 22 23 51·9	+ 0·2	7·2	0·8

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	18 7 21.01	S. 22 23 55.6	1.0164366	19 28.0	266 25 36.7	N. 1 5 5.7	1.0032
2	18 7 37.57	22 23 51.0	.0157818	19 24.3	266 27 24.8	1 5 1.4	.0032
3	18 7 53.78	22 23 46.3	.0151222	19 20.6	266 29 12.9	1 4 57.2	.0032
4	18 8 9.62	22 23 41.5	.0144580	19 16.9	266 31 1.1	1 4 53.0	.0032
5	18 8 25.11	22 23 36.7	.0137892	19 13.2	266 32 49.2	1 4 48.7	.0032
6	18 8 40.24	22 23 31.8	.0131160	19 9.5	266 34 37.3	1 4 44.5	.0032
7	18 8 54.99	22 23 26.9	.0124387	19 5.8	266 36 25.5	1 4 40.3	.0032
8	18 9 9.38	22 23 22.0	.0117572	19 2.1	266 38 13.6	1 4 36.0	.0032
9	18 9 23.40	22 23 17.0	.0110718	18 58.4	266 40 1.7	1 4 31.8	.0032
10	18 9 37.03	22 23 12.0	.0103827	18 54.7	266 41 49.9	1 4 27.6	.0032
11	18 9 50.29	22 23 7.0	.0096899	18 51.0	266 43 38.0	1 4 23.3	.0032
12	18 10 3.16	22 23 2.0	.0089936	18 47.3	266 45 26.1	1 4 19.1	.0032
13	18 10 15.65	22 22 57.0	.0082939	18 43.6	266 47 14.3	1 4 14.9	.0032
14	18 10 27.75	22 22 52.0	.0075911	18 39.9	266 49 2.4	1 4 10.6	.0032
15	18 10 39.45	22 22 47.0	.0068853	18 36.2	266 50 50.5	1 4 6.4	.0032
16	18 10 50.76	22 22 42.0	.0061768	18 32.4	266 52 38.6	1 4 2.1	.0032
17	18 11 1.67	22 22 37.1	.0054656	18 28.6	266 54 26.8	1 3 57.9	.0032
18	18 11 12.18	22 22 32.2	.0047520	18 24.9	266 56 14.9	1 3 53.6	.0032
19	18 11 22.29	22 22 27.4	.0040363	18 21.1	266 58 3.0	1 3 49.4	.0032
20	18 11 31.99	22 22 22.6	.0033184	18 17.3	266 59 51.1	1 3 45.1	.0032
21	18 11 41.28	22 22 17.8	.0025989	18 13.5	267 1 39.3	1 3 40.9	.0032
22	18 11 50.15	22 22 13.2	.0018776	18 9.7	267 3 27.4	1 3 36.7	.0032
23	18 11 58.62	22 22 8.6	.0011550	18 5.9	267 5 15.5	1 3 32.4	.0032
24	18 12 6.67	22 22 4.1	1.0004311	18 2.1	267 7 3.6	1 3 28.2	.0032
25	18 12 14.30	22 21 59.7	.99997063	17 58.3	267 8 51.8	1 3 23.9	.0032
26	18 12 21.51	22 21 55.5	.9989806	17 54.5	267 10 39.9	1 3 19.7	.0032
27	18 12 28.31	22 21 51.3	.9982544	17 50.7	267 12 28.0	1 3 15.4	.0032
28	18 12 34.68	22 21 47.2	.9975279	17 46.9	267 14 16.1	1 3 11.1	.0032
29	18 12 40.63	22 21 43.3	.9968012	17 43.0	267 16 4.2	1 3 6.9	.0032
30	18 12 46.16	22 21 39.5	.9960746	17 39.2	267 17 52.4	1 3 2.6	.0032
31	18 12 51.27	22 21 35.8	.9953483	17 35.4	267 19 40.5	1 2 58.4	.0032
32	18 12 55.95	S. 22 21 32.3	0.9946225	17 31.5	267 21 28.6	N. 1 2 54.1	1.0032

MARCH, 1841.

At Transit over the Meridian of Greenwich,

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 18 7 34·47	^s + 0·68	^s 0·56	[°] ['] ["] S. 22 23 51·9	["] + 0·2	["] 7·2	["] 0·8
18 7 50·71	0·67	0·56	22 23 47·2	0·2	7·3	0·8
18 8 6·58	0·65	0·57	22 23 42·4	0·2	7·3	0·8
18 8 22·10	0·64	0·57	22 23 37·7	0·2	7·3	0·8
18 8 37·26	0·62	0·57	22 23 32·8	0·2	7·3	0·8
18 8 52·04	0·61	0·57	22 23 27·9	0·2	7·3	0·8
18 9 6·47	0·59	0·57	22 23 23·0	0·2	7·3	0·8
18 9 20·53	0·58	0·57	22 23 18·0	0·2	7·3	0·8
18 9 34·20	0·56	0·57	22 23 13·1	0·2	7·3	0·8
18 9 47·51	0·55	0·57	22 23 8·1	0·2	7·3	0·8
18 10 0·43	0·53	0·57	22 23 3·1	0·2	7·4	0·8
18 10 12·97	0·52	0·57	22 22 58·1	0·2	7·4	0·8
18 10 25·12	0·50	0·57	22 22 53·1	0·2	7·4	0·8
18 10 36·88	0·49	0·58	22 22 48·1	0·2	7·4	0·8
18 10 48·25	0·47	0·58	22 22 43·1	0·2	7·4	0·8
18 10 59·22	0·46	0·58	22 22 38·2	0·2	7·4	0·8
18 11 9·79	0·44	0·58	22 22 33·3	0·2	7·4	0·8
18 11 19·97	0·42	0·58	22 22 28·5	0·2	7·4	0·8
18 11 29·74	0·40	0·58	22 22 23·7	0·2	7·5	0·8
18 11 39·10	0·38	0·58	22 22 18·9	0·2	7·5	0·9
18 11 48·05	0·36	0·58	22 22 14·3	0·2	7·5	0·9
18 11 56·60	0·35	0·58	22 22 9·7	0·2	7·5	0·9
18 12 4·73	0·33	0·58	22 22 5·2	0·2	7·5	0·9
18 12 12·44	0·31	0·58	22 22 0·7	0·2	7·5	0·9
18 12 19·73	0·30	0·59	22 21 56·5	0·2	7·5	0·9
18 12 26·62	0·28	0·59	22 21 52·3	0·2	7·5	0·9
18 12 33·08	0·26	0·59	22 21 48·2	0·2	7·5	0·9
18 12 39·12	0·25	0·59	22 21 44·3	0·2	7·6	0·9
18 12 44·75	0·23	0·59	22 21 40·5	0·2	7·6	0·9
18 12 49·96	0·21	0·59	22 21 36·8	0·2	7·6	0·9
18 12 54·74	0·19	0·59	22 21 33·2	0·1	7·6	0·9
18 12 59·11	+ 0·17	0·59	S. 22 21 29·8	+ 0·1	7·6	0·9

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Vect.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1	h m s 18 12 55.95	S. 22 21 32.3	0.9946225	h m 17 31.5	267 21 28.6	N. 1 2 54.1	1.0032596
2	18 13 0.22	22 21 28.9	.9938975	17 27.6	267 23 16.7	1 2 49.9	.0032606
3	18 13 4.05	22 21 25.6	.9931733	17 23.7	267 25 4.8	1 2 45.6	.0032616
4	18 13 7.47	22 21 22.5	.9924503	17 19.8	267 26 53.0	1 2 41.3	.0032625
5	18 13 10.46	22 21 19.5	.9917287	17 15.9	267 28 41.1	1 2 37.1	.0032635
6	18 13 13.02	22 21 16.7	.9910086	17 12.0	267 30 29.2	1 2 32.8	.0032644
7	18 13 15.16	22 21 14.0	.9902902	17 8.1	267 32 17.3	1 2 28.5	.0032653
8	18 13 16.87	22 21 11.4	.9895737	17 4.2	267 34 5.4	1 2 24.3	.0032662
9	18 13 18.16	22 21 9.0	.9888593	17 0.3	267 35 53.6	1 2 20.0	.0032672
10	18 13 19.02	22 21 6.8	.9881473	16 56.4	267 37 41.7	1 2 15.7	.0032681
11	18 13 19.46	22 21 4.7	.9874377	16 52.5	267 39 29.8	1 2 11.5	.0032690
12	18 13 19.47	22 21 2.8	.9867308	16 48.6	267 41 17.9	1 2 7.2	.0032699
13	18 13 19.06	22 21 1.0	.9860269	16 44.7	267 43 6.1	1 2 2.9	.0032708
14	18 13 18.22	22 20 59.4	.9853262	16 40.7	267 44 54.2	1 1 58.7	.0032717
15	18 13 16.95	22 20 57.9	.9846290	16 36.7	267 46 42.3	1 1 54.4	.0032725
16	18 13 15.27	22 20 56.7	.9839355	16 32.7	267 48 30.4	1 1 50.1	.0032734
17	18 13 13.16	22 20 55.7	.9832460	16 28.8	267 50 18.6	1 1 45.8	.0032743
18	18 13 10.62	22 20 54.8	.9825607	16 24.8	267 52 6.7	1 1 41.6	.0032751
19	18 13 7.66	22 20 54.1	.9818799	16 20.8	267 53 54.8	1 1 37.3	.0032760
20	18 13 4.29	22 20 53.6	.9812038	16 16.8	267 55 43.0	1 1 33.0	.0032768
21	18 13 0.50	22 20 53.3	.9805327	16 12.8	267 57 31.1	1 1 28.7	.0032776
22	18 12 56.29	22 20 53.1	.9798667	16 8.8	267 59 19.2	1 1 24.4	.0032784
23	18 12 51.67	22 20 53.1	.9792062	16 4.8	268 1 7.4	1 1 20.2	.0032792
24	18 12 46.64	22 20 53.3	.9785514	16 0.8	268 2 55.5	1 1 15.9	.0032800
25	18 12 41.21	22 20 53.6	.9779025	15 56.8	268 4 43.6	1 1 11.6	.0032808
26	18 12 35.37	22 20 54.2	.9772597	15 52.8	268 6 31.7	1 1 7.3	.0032816
27	18 12 29.14	22 20 54.8	.9766232	15 48.7	268 8 19.9	1 1 3.0	.0032824
28	18 12 22.50	22 20 55.7	.9759934	15 44.6	268 10 8.0	1 0 58.7	.0032832
29	18 12 15.48	22 20 56.7	.9753704	15 40.5	268 11 56.2	1 0 54.4	.0032840
30	18 12 8.06	22 20 57.9	.9747543	15 36.4	268 13 44.3	1 0 50.2	.0032847
31	18 12 0.26	S. 22 20 59.3	0.9741455	15 32.3	268 15 32.4	N. 1 0 45.9	1.0032855

APRIL, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
1	^h 18 ^m 12 ^s 59 [·] 11	+ 0 [·] 17	0 [·] 59	S. 22 21 29 [·] 8	+ 0 [·] 1	7 [·] 6	0 [·] 9
2	18 13 3 [·] 04	0 [·] 16	0 [·] 59	22 21 26 [·] 5	0 [·] 1	7 [·] 6	0 [·] 9
3	18 13 6 [·] 57	0 [·] 14	0 [·] 59	22 21 23 [·] 3	0 [·] 1	7 [·] 6	0 [·] 9
4	18 13 9 [·] 67	0 [·] 13	0 [·] 60	22 21 20 [·] 3	0 [·] 1	7 [·] 6	0 [·] 9
5	18 13 12 [·] 34	0 [·] 11	0 [·] 60	22 21 17 [·] 5	0 [·] 1	7 [·] 7	0 [·] 9
6	18 13 14 [·] 59	0 [·] 09	0 [·] 60	22 21 14 [·] 7	0 [·] 1	7 [·] 7	0 [·] 9
7	18 13 16 [·] 42	0 [·] 08	0 [·] 60	22 21 12 [·] 1	0 [·] 1	7 [·] 7	0 [·] 9
8	18 13 17 [·] 83	0 [·] 06	0 [·] 60	22 21 9 [·] 7	0 [·] 1	7 [·] 7	0 [·] 9
9	18 13 18 [·] 81	0 [·] 04	0 [·] 60	22 21 7 [·] 4	0 [·] 1	7 [·] 7	0 [·] 9
10	18 13 19 [·] 37	+ 0 [·] 02	0 [·] 60	22 21 5 [·] 3	0 [·] 1	7 [·] 7	0 [·] 9
11	18 13 19 [·] 51	0 [·] 00	0 [·] 60	22 21 3 [·] 4	0 [·] 1	7 [·] 7	0 [·] 9
12	18 13 19 [·] 23	- 0 [·] 02	0 [·] 60	22 21 1 [·] 5	0 [·] 1	7 [·] 8	0 [·] 9
13	18 13 18 [·] 52	0 [·] 03	0 [·] 60	22 20 59 [·] 9	0 [·] 1	7 [·] 8	0 [·] 9
14	18 13 17 [·] 38	0 [·] 05	0 [·] 61	22 20 58 [·] 3	+ 0 [·] 1	7 [·] 8	0 [·] 9
15	18 13 15 [·] 84	0 [·] 06	0 [·] 61	22 20 57 [·] 1	0 [·] 0	7 [·] 8	0 [·] 9
16	18 13 13 [·] 87	0 [·] 08	0 [·] 61	22 20 56 [·] 0	0 [·] 0	7 [·] 8	0 [·] 9
17	18 13 11 [·] 47	0 [·] 10	0 [·] 61	22 20 55 [·] 1	0 [·] 0	7 [·] 8	0 [·] 9
18	18 13 8 [·] 65	0 [·] 12	0 [·] 61	22 20 54 [·] 3	0 [·] 0	7 [·] 8	0 [·] 9
19	18 13 5 [·] 42	0 [·] 14	0 [·] 61	22 20 53 [·] 8	0 [·] 0	7 [·] 8	0 [·] 9
20	18 13 1 [·] 77	0 [·] 16	0 [·] 61	22 20 53 [·] 4	0 [·] 0	7 [·] 8	0 [·] 9
21	18 12 57 [·] 70	0 [·] 18	0 [·] 61	22 20 53 [·] 2	0 [·] 0	7 [·] 9	0 [·] 9
22	18 12 53 [·] 23	0 [·] 19	0 [·] 61	22 20 53 [·] 1	0 [·] 0	7 [·] 9	0 [·] 9
23	18 12 48 [·] 35	0 [·] 21	0 [·] 61	22 20 53 [·] 3	0 [·] 0	7 [·] 9	0 [·] 9
24	18 12 43 [·] 07	0 [·] 23	0 [·] 61	22 20 53 [·] 5	0 [·] 0	7 [·] 9	0 [·] 9
25	18 12 37 [·] 38	0 [·] 24	0 [·] 62	22 20 54 [·] 0	0 [·] 0	7 [·] 9	0 [·] 9
26	18 12 31 [·] 30	0 [·] 26	0 [·] 62	22 20 54 [·] 6	0 [·] 0	7 [·] 9	0 [·] 9
27	18 12 24 [·] 81	0 [·] 27	0 [·] 62	22 20 55 [·] 5	0 [·] 0	7 [·] 9	0 [·] 9
28	18 12 17 [·] 95	0 [·] 29	0 [·] 62	22 20 56 [·] 4	0 [·] 0	7 [·] 9	0 [·] 9
29	18 12 10 [·] 68	0 [·] 30	0 [·] 62	22 20 57 [·] 6	0 [·] 1	8 [·] 0	0 [·] 9
30	18 12 3 [·] 04	0 [·] 32	0 [·] 62	22 20 58 [·] 9	0 [·] 1	8 [·] 0	0 [·] 9
31	18 11 55 [·] 02	- 0 [·] 34	0 [·] 62	S. 22 21 0 [·] 4	- 0 [·] 1	8 [·] 0	0 [·] 9

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	18 12 0.26	S. 22 20 59.3	0.9741455	15 32.3	268 15 32.4	N. 1 0 45.9	1.003
2	18 11 52.08	22 21 0.8	.9735442	15 28.2	268 17 20.6	1 0 41.6	.003
3	18 11 43.53	22 21 2.5	.9729505	15 24.1	268 19 8.7	1 0 37.3	.003
4	18 11 34.60	22 21 4.3	.9723647	15 20.0	268 20 56.9	1 0 33.0	.003
5	18 11 25.30	22 21 6.3	.9717870	15 16.0	268 22 45.0	1 0 28.7	.003
6	18 11 15.64	22 21 8.4	.9712175	15 11.9	268 24 33.1	1 0 24.4	.003
7	18 11 5.62	22 21 10.7	.9706566	15 7.8	268 26 21.3	1 0 20.1	.003
8	18 10 55.24	22 21 13.1	.9701043	15 3.7	268 28 9.4	1 0 15.8	.003
9	18 10 44.51	22 21 15.6	.9695609	14 59.6	268 29 57.6	1 0 11.5	.003
10	18 10 33.43	22 21 18.3	.9690266	14 55.5	268 31 45.7	1 0 7.2	.003
11	18 10 22.01	22 21 21.1	.9685016	14 51.4	268 33 33.9	1 0 2.9	.003
12	18 10 10.25	22 21 24.0	.9679860	14 47.3	268 35 22.0	0 59 58.6	.003
13	18 9 58.16	22 21 27.0	.9674802	14 43.2	268 37 10.2	0 59 54.3	.003
14	18 9 45.74	22 21 30.1	.9669844	14 39.1	268 38 58.3	0 59 50.0	.003
15	18 9 33.00	22 21 33.4	.9664987	14 34.9	268 40 46.5	0 59 45.7	.003
16	18 9 19.95	22 21 36.7	.9660234	14 30.7	268 42 34.6	0 59 41.4	.003
17	18 9 6.58	22 21 40.1	.9655587	14 26.6	268 44 22.8	0 59 37.1	.003
18	18 8 52.92	22 21 43.6	.9651048	14 22.4	268 46 10.9	0 59 32.8	.003
19	18 8 38.95	22 21 47.2	.9646618	14 18.2	268 47 59.1	0 59 28.5	.003
20	18 8 24.70	22 21 50.9	.9642301	14 14.1	268 49 47.3	0 59 24.2	.003
21	18 8 10.16	22 21 54.7	.9638097	14 9.9	268 51 35.4	0 59 19.9	.003
22	18 7 55.36	22 21 58.6	.9634008	14 5.7	268 53 23.6	0 59 15.6	.003
23	18 7 40.29	22 22 2.6	.9630037	14 1.5	268 55 11.7	0 59 11.2	.003
24	18 7 24.96	22 22 6.6	.9626184	13 57.3	268 56 59.9	0 59 6.9	.003
25	18 7 9.38	22 22 10.8	.9622451	13 53.1	268 58 48.0	0 59 2.6	.003
26	18 6 53.55	22 22 15.0	.9618841	13 48.9	269 0 36.2	0 58 58.3	.003
27	18 6 37.50	22 22 19.2	.9615354	13 44.7	269 2 24.4	0 58 54.0	.003
28	18 6 21.21	22 22 23.5	.9611991	13 40.5	269 4 12.5	0 58 49.7	.003
29	18 6 4.71	22 22 27.8	.9608755	13 36.3	269 6 0.7	0 58 45.4	.003
30	18 5 48.00	22 22 32.1	.9605645	13 32.1	269 7 48.8	0 58 41.0	.003
31	18 5 31.09	22 22 36.5	.9602665	13 27.9	269 9 37.0	0 58 36.7	.003
32	18 5 13.99	S. 22 22 40.9	0.9599813	13 23.7	269 11 25.2	N. 0 58 32.4	1.003

MAY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
18 11 55.02	— 0.34	0.62	S. 22 21 0.4	— 0.1	8.0	0.9
18 11 46.62	0.35	0.62	22 21 2.0	0.1	8.0	0.9
18 11 37.85	0.37	0.62	22 21 3.7	0.1	8.0	0.9
18 11 28.71	0.38	0.62	22 21 5.6	0.1	8.0	0.9
18 11 19.20	0.40	0.62	22 21 7.7	0.1	8.0	0.9
18 11 9.34	0.41	0.63	22 21 9.9	0.1	8.0	0.9
18 10 59.12	0.43	0.63	22 21 12.2	0.1	8.0	0.9
18 10 48.55	0.44	0.63	22 21 14.7	0.1	8.1	0.9
18 10 37.63	0.46	0.63	22 21 17.3	0.1	8.1	0.9
18 10 26.37	0.47	0.63	22 21 20.0	0.1	8.1	0.9
18 10 14.77	0.49	0.63	22 21 22.9	0.1	8.1	0.9
18 10 2.84	0.50	0.63	22 21 25.8	0.1	8.1	0.9
18 9 50.58	0.52	0.63	22 21 28.9	0.1	8.1	0.9
18 9 38.00	0.53	0.63	22 21 32.2	0.1	8.1	0.9
18 9 25.11	0.55	0.63	22 21 35.4	0.1	8.1	0.9
18 9 11.91	0.56	0.63	22 21 38.8	0.1	8.1	0.9
18 8 58.41	0.57	0.63	22 21 42.2	0.1	8.1	0.9
18 8 44.60	0.59	0.63	22 21 45.8	0.2	8.1	0.9
18 8 30.50	0.60	0.63	22 21 49.4	0.2	8.2	0.9
18 8 16.12	0.61	0.64	22 21 53.2	0.2	8.2	0.9
18 8 1.47	0.62	0.64	22 21 57.0	0.2	8.2	0.9
18 7 46.55	0.63	0.64	22 22 0.9	0.2	8.2	0.9
18 7 31.37	0.64	0.64	22 22 4.9	0.2	8.2	0.9
18 7 15.94	0.65	0.64	22 22 9.1	0.2	8.2	0.9
18 7 0.25	0.66	0.64	22 22 13.2	0.2	8.2	0.9
18 6 44.35	0.67	0.64	22 22 17.4	0.2	8.2	0.9
18 6 28.20	0.68	0.64	22 22 21.7	0.2	8.2	0.9
18 6 11.84	0.69	0.64	22 22 25.9	0.2	8.2	0.9
18 5 55.27	0.70	0.64	22 22 30.2	0.2	8.2	0.9
18 5 38.49	0.71	0.64	22 22 34.6	0.2	8.2	0.9
18 5 21.52	0.71	0.64	22 22 38.9	0.2	8.2	0.9
18 5 4.36	— 0.72	0.64	S. 22 22 43.4	— 0.2	8.2	0.9

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V	
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	
	<i>h m s</i>	<i>° ′ ″</i>			<i>° ′ ″</i>	<i>° ′ ″</i>		
1	18 5 13.99	S. 22 22 40.9	0.9599813	13 23.7	269 11 25.2	N. 0 58 32.4	1.0033	
2	18 4 56.70	22 22 45.4	.9597092	13 19.5	269 13 13.3	0 58 28.1	.0033	
3	18 4 39.24	22 22 49.8	.9594503	13 15.2	269 15 1.5	0 58 23.8	.0033	
4	18 4 21.61	22 22 54.3	.9592046	13 11.0	269 16 49.7	0 58 19.4	.0033	
5	18 4 3.82	22 22 58.8	.9589723	13 6.8	269 18 37.8	0 58 15.1	.0033	
6	18 3 45.88	22 23 3.3	.9587534	13 2.6	269 20 26.0	0 58 10.8	.0033	
7	18 3 27.79	22 23 7.9	.9585481	12 58.4	269 22 14.2	0 58 6.5	.0033	
8	18 3 9.57	22 23 12.4	.9583564	12 54.2	269 24 2.3	0 58 2.1	.0033	
9	18 2 51.23	22 23 16.9	.9581784	12 49.9	269 25 50.5	0 57 57.8	.0033	
10	18 2 32.77	22 23 21.4	.9580142	12 45.7	269 27 38.7	0 57 53.5	.0033	
11	18 2 14.20	22 23 25.9	.9578639	12 41.4	269 29 26.8	0 57 49.2	.0033	
12	18 1 55.53	22 23 30.3	.9577276	12 37.2	269 31 15.0	0 57 44.8	.0033	
13	18 1 36.78	22 23 34.8	.9576053	12 32.9	269 33 3.2	0 57 40.5	.0033	
14	18 1 17.94	22 23 39.3	.9574972	12 28.7	269 34 51.3	0 57 36.2	.0033	
15	18 0 59.04	22 23 43.7	.9574032	12 24.4	269 36 39.5	0 57 31.8	.0033	
16	18 0 40.07	22 23 48.2	.9573235	12 20.2	269 38 27.7	0 57 27.5	.0033	
17	18 0 21.06	22 23 52.6	.9572581	12 15.9	269 40 15.8	0 57 23.2	.0033	
18	18 0 2.00	22 23 57.1	.9572070	12 11.7	269 42 4.0	0 57 18.8	.0033	
19	17 59 42.91	22 24 1.5	.9571702	12 7.4	269 43 52.2	0 57 14.5	.0033	
20	17 59 23.81	22 24 6.0	.9571478	12 3.2	269 45 40.3	0 57 10.1	.0033	
21	17 59 4.69	22 24 10.4	.9571398	11 58.9	269 47 28.5	0 57 5.8	.0033	
22	17 58 45.58	22 24 14.8	.9571462	11 54.7	269 49 16.7	0 57 1.5	.0033	
23	17 58 26.48	22 24 19.2	.9571670	11 50.4	269 51 4.8	0 56 57.1	.0033	
24	17 58 7.40	22 24 23.6	.9572020	11 46.2	269 52 53.0	0 56 52.8	.0033	
25	17 57 48.35	22 24 27.9	.9572514	11 41.9	269 54 41.1	0 56 48.4	.0033	
26	17 57 29.34	22 24 32.2	.9573150	11 37.7	269 56 29.3	0 56 44.1	.0033	
27	17 57 10.38	22 24 36.5	.9573929	11 33.4	269 58 17.5	0 56 39.7	.0033	
28	17 56 51.48	22 24 40.7	.9574849	11 29.2	270 0 5.6	0 56 35.4	.0033	
29	17 56 32.65	22 24 44.9	.9575910	11 24.9	270 1 53.8	0 56 31.1	.0033	
30	17 56 13.90	22 24 49.2	.9577111	11 20.7	270 3 42.0	0 56 26.7	.0033	
31	17 55 55.24	S. 22 24 53.3	0.9578452	11 16.4	270 5 30.1	N. 0 56 22.4	1.0033	

JUNE, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
1	^h 18 ^m 5 ^s 4.36	— 0.72	0.61	S. [°] 22 ['] 22 ["] 43.4	— 0.2	8.2	0.9
2	18 4 47.03	0.73	0.64	22 22 47.8	0.2	8.2	0.9
3	18 4 29.52	0.73	0.64	22 22 52.3	0.2	8.3	0.9
4	18 4 11.85	0.74	0.64	22 22 56.7	0.2	8.3	0.9
5	18 3 54.03	0.75	0.64	22 23 1.2	0.2	8.3	0.9
6	18 3 36.06	0.75	0.64	22 23 5.8	0.2	8.3	0.9
7	18 3 17.96	0.76	0.64	22 23 10.3	0.2	8.3	0.9
8	18 2 59.73	0.76	0.64	22 23 14.8	0.2	8.3	0.9
9	18 2 41.38	0.77	0.64	22 23 19.3	0.2	8.3	0.9
0	18 2 22.91	0.77	0.64	22 23 23.8	0.2	8.3	0.9
1	18 2 4.34	0.78	0.64	22 23 28.1	0.2	8.3	0.9
2	18 1 45.69	0.78	0.65	22 23 32.6	0.2	8.3	0.9
3	18 1 26.94	0.78	0.65	22 23 37.1	0.2	8.3	0.9
4	18 1 8.13	0.79	0.65	22 23 41.5	0.2	8.3	0.9
5	18 0 49.24	0.79	0.65	22 23 46.0	0.2	8.3	0.9
6	18 0 30.31	0.79	0.65	22 23 50.4	0.2	8.3	0.9
7	18 0 11.32	0.79	0.65	22 23 54.9	0.2	8.3	0.9
8	17 59 52.30	0.79	0.65	22 23 59.3	0.2	8.3	0.9
9	17 59 33.26	0.79	0.65	22 24 3.8	0.2	8.3	0.9
10	17 59 14.20	0.79	0.65	22 24 8.2	0.2	8.3	0.9
11	17 58 55.15	0.79	0.65	22 24 12.6	0.2	8.3	0.9
12	17 58 36.10	0.79	0.65	22 24 17.0	0.2	8.3	0.9
13	17 58 17.07	0.79	0.65	22 24 21.3	0.2	8.3	0.9
14	17 57 58.06	0.79	0.65	22 24 25.7	0.2	8.3	0.9
15	17 57 39.08	0.79	0.65	22 24 30.0	0.2	8.3	0.9
16	17 57 20.15	0.79	0.65	22 24 34.2	0.2	8.3	0.9
17	17 57 1.27	0.79	0.65	22 24 38.5	0.2	8.3	0.9
18	17 56 42.46	0.78	0.65	22 24 42.7	0.2	8.3	0.9
19	17 56 23.72	0.78	0.65	22 24 46.9	0.2	8.3	0.9
10	17 56 5.06	0.78	0.65	22 24 51.1	0.2	8.3	0.9
11	17 55 46.50	— 0.77	0.64	S. 22 24 55.2	— 0.2	8.3	0.9

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 55 55.24	S. 22 24 53.3	0.9578452	11 16.4	270 5 30.1	N. 0 56 22.4	1.003
2	17 55 36.67	22 24 57.4	.9579932	11 12.2	270 7 18.3	0 56 18.0	.003
3	17 55 18.21	22 25 1.6	.9581550	11 8.0	270 9 6.4	0 56 13.7	.003
4	17 54 59.86	22 25 5.8	.9583305	11 3.7	270 10 54.6	0 56 9.3	.003
5	17 54 41.63	22 25 9.9	.9585197	10 59.5	270 12 42.8	0 56 5.0	.003
6	17 54 23.54	22 25 14.1	.9587225	10 55.2	270 14 30.9	0 56 0.6	.003
7	17 54 5.58	22 25 18.3	.9589388	10 51.0	270 16 19.1	0 55 56.2	.003
8	17 53 47.77	22 25 22.5	.9591685	10 46.8	270 18 7.2	0 55 51.9	.003
9	17 53 30.12	22 25 26.7	.9594116	10 42.6	270 19 55.4	0 55 47.5	.003
10	17 53 12.63	22 25 30.9	.9596679	10 38.3	270 21 43.5	0 55 43.2	.003
11	17 52 55.32	22 25 35.1	.9599374	10 34.1	270 23 31.7	0 55 38.8	.003
12	17 52 38.19	22 25 39.4	.9602200	10 29.9	270 25 19.8	0 55 34.5	.003
13	17 52 21.26	22 25 43.6	.9605155	10 25.7	270 27 8.0	0 55 30.1	.003
14	17 52 4.52	22 25 47.9	.9608238	10 21.5	270 28 56.1	0 55 25.8	.003
15	17 51 47.99	22 25 52.2	.9611449	10 17.3	270 30 44.3	0 55 21.4	.003
16	17 51 31.68	22 25 56.5	.9614786	10 13.1	270 32 32.4	0 55 17.0	.003
17	17 51 15.59	22 26 0.9	.9618247	10 8.9	270 34 20.6	0 55 12.7	.003
18	17 50 59.73	22 26 5.3	.9621831	10 4.7	270 36 8.7	0 55 8.3	.003
19	17 50 44.12	22 26 9.8	.9625537	10 0.5	270 37 56.9	0 55 3.9	.003
20	17 50 28.76	22 26 14.3	.9629361	9 56.3	270 39 45.0	0 54 59.6	.003
21	17 50 13.66	22 26 18.9	.9633304	9 52.2	270 41 33.1	0 54 55.2	.003
22	17 49 58.83	22 26 23.6	.9637363	9 48.0	270 43 21.3	0 54 50.9	.003
23	17 49 44.27	22 26 28.3	.9641536	9 43.8	270 45 9.4	0 54 46.5	.003
24	17 49 29.99	22 26 33.1	.9645821	9 39.6	270 46 57.5	0 54 42.1	.003
25	17 49 15.99	22 26 37.9	.9650216	9 35.4	270 48 45.7	0 54 37.7	.003
26	17 49 2.29	22 26 42.8	.9654720	9 31.3	270 50 33.8	0 54 33.4	.003
27	17 48 48.89	22 26 47.8	.9659330	9 27.2	270 52 22.0	0 54 29.0	.003
28	17 48 35.79	22 26 52.8	.9664044	9 23.0	270 54 10.1	0 54 24.6	.003
29	17 48 23.01	22 26 58.0	.9668861	9 18.9	270 55 58.2	0 54 20.3	.003
30	17 48 10.54	22 27 3.2	.9673779	9 14.7	270 57 46.3	0 54 15.9	.003
31	17 47 58.39	22 27 8.5	.9678795	9 10.6	270 59 34.5	0 54 11.5	.003
32	17 47 46.57	S. 22 27 13.9	0.9683907	9 6.5	271 1 22.6	N. 0 54 7.1	1.003

JULY, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
1	^h 17 ^m 55 ^s 46.50	— 0.77	0.64	S. 22° 24' 55".2	— 0.2	8".3	0".9
2	17 55 28.03	0.76	0.64	22 24 59.3	0.2	8".3	0".9
3	17 55 9.68	0.76	0.64	22 25 3.5	0.2	8".3	0".9
4	17 54 51.44	0.75	0.64	22 25 7.7	0.2	8".3	0".9
5	17 54 33.32	0.75	0.64	22 25 11.8	0.2	8".3	0".9
6	17 54 15.35	0.74	0.64	22 25 16.0	0.2	8".3	0".9
7	17 53 57.51	0.74	0.64	22 25 20.2	0.2	8".3	0".9
8	17 53 39.82	0.73	0.64	22 25 24.4	0.2	8".3	0".9
9	17 53 22.30	0.72	0.64	22 25 28.6	0.2	8".3	0".9
10	17 53 4.94	0.71	0.64	22 25 32.8	0.2	8".3	0".9
11	17 52 47.76	0.71	0.64	22 25 37.0	0.2	8".2	0".9
12	17 52 30.76	0.70	0.64	22 25 41.2	0.2	8".2	0".9
13	17 52 13.96	0.69	0.64	22 25 45.4	0.2	8".2	0".9
14	17 51 57.36	0.69	0.64	22 25 49.7	0.2	8".2	0".9
15	17 51 40.97	0.68	0.64	22 25 54.0	0.2	8".2	0".9
16	17 51 24.80	0.67	0.64	22 25 58.3	0.2	8".2	0".9
17	17 51 8.86	0.66	0.64	22 26 2.7	0.2	8".2	0".9
18	17 50 53.15	0.65	0.64	22 26 7.2	0.2	8".2	0".9
19	17 50 37.69	0.64	0.64	22 26 11.7	0.2	8".2	0".9
20	17 50 22.48	0.63	0.64	22 26 16.2	0.2	8".2	0".9
21	17 50 7.53	0.62	0.64	22 26 20.8	0.2	8".2	0".9
22	17 49 52.85	0.61	0.64	22 26 25.5	0.2	8".2	0".9
23	17 49 38.44	0.60	0.64	22 26 30.2	0.2	8".2	0".9
24	17 49 24.32	0.59	0.64	22 26 35.1	0.2	8".2	0".9
25	17 49 10.47	0.57	0.63	22 26 39.9	0.2	8".1	0".9
26	17 48 56.93	0.56	0.63	22 26 44.8	0.2	8".1	0".9
27	17 48 43.69	0.54	0.63	22 26 49.8	0.2	8".1	0".9
28	17 48 30.75	0.53	0.63	22 26 54.8	0.2	8".1	0".9
29	17 48 18.13	0.52	0.63	22 27 0.0	0.2	8".1	0".9
30	17 48 5.82	0.50	0.63	22 27 5.3	0.2	8".1	0".9
31	17 47 53.83	0.49	0	22 27 10.6	0.2	8".1	0".9
32	17 47 42.17	— 0		0	— 0.2	8".1	0".9

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	^o ['] ["]		^h ^m	^o ['] ["]	^o ['] ["]	
1	17 47 46.57	S. 22 27 13.9	0.9683907	9 6.5	271 1 22.6	N. 0 54 7.1	1.0031
2	17 47 35.08	22 27 19.4	.9689114	9 2.4	271 3 10.7	0 54 2.8	.0031
3	17 47 23.93	22 27 25.1	.9694413	8 58.3	271 4 58.8	0 53 58.4	.0031
4	17 47 13.12	22 27 30.8	.9699803	8 54.2	271 6 47.0	0 53 54.0	.0031
5	17 47 2.66	22 27 36.7	.9705282	8 50.1	271 8 35.1	0 53 49.6	.0031
6	17 46 52.55	22 27 42.8	.9710848	8 46.0	271 10 23.2	0 53 45.3	.0031
7	17 46 42.79	22 27 48.9	.9716498	8 41.9	271 12 11.3	0 53 40.9	.0031
8	17 46 33.40	22 27 55.2	.9722232	8 37.8	271 13 59.4	0 53 36.5	.0031
9	17 46 24.37	22 28 1.6	.9728047	8 33.7	271 15 47.5	0 53 32.1	.0031
10	17 46 15.71	22 28 8.1	.9733941	8 29.6	271 17 35.6	0 53 27.7	.0031
11	17 46 7.43	22 28 14.8	.9739912	8 25.5	271 19 23.8	0 53 23.3	.0031
12	17 45 59.52	22 28 21.6	.9745957	8 21.4	271 21 11.9	0 53 19.0	.0031
13	17 45 51.99	22 28 28.6	.9752074	8 17.4	271 23 0.0	0 53 14.6	.0031
14	17 45 44.85	22 28 35.7	.9758262	8 13.4	271 24 48.1	0 53 10.2	.0031
15	17 45 38.10	22 28 43.0	.9764517	8 9.3	271 26 36.2	0 53 5.8	.0031
16	17 45 31.74	22 28 50.4	.9770838	8 5.3	271 28 24.3	0 53 1.4	.0031
17	17 45 25.79	22 28 57.9	.9777222	8 1.3	271 30 12.4	0 52 57.0	.0031
18	17 45 20.23	22 29 5.6	.9783667	7 57.3	271 32 0.5	0 52 52.6	.0031
19	17 45 15.07	22 29 13.5	.9790169	7 53.3	271 33 48.6	0 52 48.2	.0031
20	17 45 10.32	22 29 21.5	.9796728	7 49.3	271 35 36.7	0 52 43.8	.0031
21	17 45 5.98	22 29 29.7	.9803340	7 45.3	271 37 24.8	0 52 39.4	.0031
22	17 45 2.06	22 29 38.0	.9810003	7 41.3	271 39 12.9	0 52 35.1	.0031
23	17 44 58.54	22 29 46.5	.9816715	7 37.3	271 41 1.0	0 52 30.7	.0031
24	17 44 55.44	22 29 55.1	.9823473	7 33.3	271 42 49.1	0 52 26.3	.0031
25	17 44 52.75	22 30 3.9	.9830275	7 29.3	271 44 37.1	0 52 21.9	.0031
26	17 44 50.48	22 30 12.9	.9837119	7 25.3	271 46 25.2	0 52 17.5	.0031
27	17 44 48.63	22 30 22.0	.9844002	7 21.3	271 48 13.3	0 52 13.1	.0031
28	17 44 47.19	22 30 31.3	.9850921	7 17.3	271 50 1.4	0 52 8.7	.0031
29	17 44 46.17	22 30 40.7	.9857876	7 13.4	271 51 49.5	0 52 4.3	.0031
30	17 44 45.57	22 30 50.3	.9864863	7 9.5	271 53 37.6	0 51 59.9	.0031
31	17 44 45.39	22 31 0.0	.9871881	7 5.6	271 55 25.7	0 51 55.5	.0031
32	17 44 45.63	S. 22 31 9.9	0.9878928	7 1.7	271 57 13.8	N. 0 51 51.1	1.0031

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	17 47 42·17	— 0·48	0·63	S. 22 27 16·0	— 0·2	8·1	0·9
2	17 47 30·84	0·47	0·63	22 27 21·5	0·2	8·1	0·9
3	17 47 19·85	0·45	0·63	22 27 27·2	0·2	8·1	0·9
4	17 47 9·20	0·44	0·63	22 27 33·0	0·2	8·1	0·9
5	17 46 58·90	0·42	0·63	22 27 38·9	0·3	8·0	0·9
6	17 46 48·95	0·41	0·63	22 27 45·0	0·3	8·0	0·9
7	17 46 39·35	0·39	0·62	22 27 51·2	0·3	8·0	0·9
8	17 46 30·11	0·38	0·62	22 27 57·5	0·3	8·0	0·9
9	17 46 21·24	0·36	0·62	22 28 3·9	0·3	8·0	0·9
10	17 46 12·74	0·35	0·62	22 28 10·5	0·3	8·0	0·9
11	17 46 4·61	0·33	0·62	22 28 17·2	0·3	8·0	0·9
12	17 45 56·86	0·32	0·62	22 28 24·0	0·3	8·0	0·9
13	17 45 49·49	0·30	0·62	22 28 31·1	0·3	8·0	0·9
14	17 45 42·50	0·29	0·62	22 28 38·2	0·3	7·9	0·9
15	17 45 35·90	0·27	0·62	22 28 45·5	0·3	7·9	0·9
16	17 45 29·69	0·26	0·62	22 28 53·0	0·3	7·9	0·9
17	17 45 23·89	0·24	0·62	22 29 0·5	0·3	7·9	0·9
18	17 45 18·48	0·23	0·62	22 29 8·2	0·3	7·9	0·9
19	17 45 13·47	0·21	0·61	22 29 16·2	0·3	7·9	0·9
20	17 45 8·86	0·19	0·61	22 29 24·2	0·3	7·9	0·9
21	17 45 4·67	0·17	0·61	22 29 32·4	0·3	7·9	0·9
22	17 45 0·89	0·15	0·61	22 29 40·7	0·4	7·9	0·9
23	17 44 57·51	0·14	0·61	22 29 49·3	0·4	7·8	0·9
24	17 44 54·55	0·12	0·61	22 29 57·9	0·4	7·8	0·9
25	17 44 52·00	0·10	0·61	22 30 6·7	0·4	7·8	0·9
26	17 44 49·86	0·09	0·61	22 30 15·7	0·4	7·8	0·9
27	17 44 48·14	0·07	0·61	22 30 24·8	0·4	7·8	0·9
28	17 44 46·83	0·05	0·61	22 30 34·2	0·4	7·8	0·9
29	17 44 45·94	0·03	0·60	22 30 43·6	0·4	7·8	0·9
30	17 44 45·47	— 0·01	0·60	22 30 53·2	0·4	7·8	0·9
31	17 44 45·41	+ 0·01	0·60	22 31 3·0	0·4	7·7	0·9
32	17 44 45·77	+ 0·02	0·60	S.	0·4	7·7	0·9

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	17 44 45.63	S. 22 31 9.9	0.9878928	7 1.7	271 57 13.8	N. 0 51 51.1	1.003
2	17 44 46.29	22 31 20.0	.9886001	6 57.8	271 59 1.8	0 51 46.7	.003
3	17 44 47.37	22 31 30.2	.9893099	6 53.9	272 0 49.9	0 51 42.3	.003
4	17 44 48.87	22 31 40.5	.9900219	6 50.0	272 2 38.0	0 51 37.9	.003
5	17 44 50.79	22 31 51.1	.9907359	6 46.1	272 4 26.1	0 51 33.4	.003
6	17 44 53.13	22 32 1.7	.9914518	6 42.2	272 6 14.2	0 51 29.0	.003
7	17 44 55.89	22 32 12.5	.9921693	6 38.3	272 8 2.3	0 51 24.6	.003
8	17 44 59.07	22 32 23.4	.9928883	6 34.4	272 9 50.3	0 51 20.2	.003
9	17 45 2.68	22 32 34.5	.9936084	6 30.5	272 11 38.4	0 51 15.8	.003
10	17 45 6.70	22 32 45.6	.9943296	6 26.6	272 13 26.5	0 51 11.4	.003
11	17 45 11.15	22 32 56.9	.9950515	6 22.7	272 15 14.6	0 51 7.0	.003
12	17 45 16.01	22 33 8.4	.9957740	6 18.9	272 17 2.7	0 51 2.6	.003
13	17 45 21.30	22 33 19.9	.9964969	6 15.1	272 18 50.7	0 50 58.2	.003
14	17 45 27.01	22 33 31.6	.9972199	6 11.2	272 20 38.8	0 50 53.8	.003
15	17 45 33.14	22 33 43.3	.9979428	6 7.4	272 22 26.9	0 50 49.3	.003
16	17 45 39.69	22 33 55.2	.9986654	6 3.6	272 24 15.0	0 50 44.9	.003
17	17 45 46.65	22 34 7.2	.9993875	5 59.8	272 26 3.0	0 50 40.5	.003
18	17 45 54.03	22 34 19.3	1.0001089	5 56.0	272 27 51.1	0 50 36.1	.003
19	17 46 1.82	22 34 31.4	.0008293	5 52.2	272 29 39.2	0 50 31.7	.003
20	17 46 10.03	22 34 43.6	.0015486	5 48.4	272 31 27.3	0 50 27.3	.003
21	17 46 18.64	22 34 55.9	.0022665	5 44.6	272 33 15.4	0 50 22.8	.003
22	17 46 27.66	22 35 8.2	.0029828	5 40.8	272 35 3.4	0 50 18.4	.003
23	17 46 37.09	22 35 20.6	.0036975	5 37.0	272 36 51.5	0 50 14.0	.003
24	17 46 46.91	22 35 33.1	.0044102	5 33.2	272 38 39.6	0 50 9.6	.003
25	17 46 57.14	22 35 45.6	.0051208	5 29.5	272 40 27.7	0 50 5.2	.003
26	17 47 7.76	22 35 58.2	.0058291	5 25.7	272 42 15.7	0 50 0.7	.003
27	17 47 18.78	22 36 10.8	.0065349	5 22.0	272 44 3.8	0 49 56.3	.003
28	17 47 30.19	22 36 23.4	.0072382	5 18.2	272 45 51.9	0 49 51.9	.003
29	17 47 41.98	22 36 36.1	.0079386	5 14.5	272 47 40.0	0 49 47.5	.003
30	17 47 54.16	22 36 48.8	.0086362	5 10.8	272 49 28.1	0 49 43.0	.003
31	17 48 6.73	S. 22 37 1.5	1.0093306	5 7.1	272 51 16.1	N. 0 49 38.6	1.003

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

Day of the Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi-diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	17 44 45.77	+ 0.02	0.60	S. 22 31 12.9	- 0.4	7.7	0.9
2	17 44 46.55	0.03	0.60	22 31 23.0	0.4	7.7	0.9
3	17 44 47.75	0.05	0.60	22 31 33.2	0.4	7.7	0.9
4	17 44 49.37	0.06	0.60	22 31 43.5	0.4	7.7	0.9
5	17 44 51.41	0.08	0.60	22 31 54.1	0.4	7.7	0.9
6	17 44 53.86	0.10	0.60	22 32 4.7	0.4	7.7	0.9
7	17 44 56.73	0.12	0.60	22 32 15.5	0.5	7.7	0.9
8	17 45 0.02	0.14	0.59	22 32 26.4	0.5	7.6	0.9
9	17 45 3.74	0.16	0.59	22 32 37.5	0.5	7.6	0.9
10	17 45 7.86	0.18	0.59	22 32 48.6	0.5	7.6	0.9
11	17 45 12.41	0.20	0.59	22 32 59.9	0.5	7.6	0.9
12	17 45 17.37	0.21	0.59	22 33 11.4	0.5	7.6	0.9
13	17 45 22.75	0.23	0.59	22 33 22.9	0.5	7.6	0.9
14	17 45 28.55	0.25	0.59	22 33 34.6	0.5	7.6	0.9
15	17 45 34.77	0.26	0.59	22 33 46.3	0.5	7.6	0.9
16	17 45 41.41	0.28	0.59	22 33 58.2	0.5	7.5	0.9
17	17 45 48.45	0.30	0.59	22 34 10.2	0.5	7.5	0.9
18	17 45 55.92	0.31	0.59	22 34 22.3	0.5	7.5	0.9
19	17 46 3.79	0.33	0.58	22 34 34.4	0.5	7.5	0.9
20	17 46 12.08	0.35	0.58	22 34 46.6	0.5	7.5	0.9
21	17 46 20.76	0.37	0.58	22 34 58.9	0.5	7.5	0.9
22	17 46 29.85	0.38	0.58	22 35 11.1	0.5	7.5	0.9
23	17 46 39.35	0.40	0.58	22 35 23.5	0.5	7.5	0.9
24	17 46 49.24	0.42	0.58	22 35 36.0	0.5	7.4	0.8
25	17 46 59.53	0.43	0.58	22 35 48.5	0.5	7.4	0.8
26	17 47 10.21	0.45	0.58	22 36 1.1	0.5	7.4	0.8
27	17 47 21.29	0.46	0.58	22 36 13.6	0.5	7.4	0.8
28	17 47 32.76	0.48	0.58	22 36 26.2	0.5	7.4	0.8
29	17 47 44.61	0.49	0.57	22 36 38.9	0.5	7.4	0.8
30	17 47 56.84	0.51	0.57	22 36 51.5	0.5	7.4	0.8
31	17 48 9.46	+ 0.53	0.57	S. 22 37 4.2	- 0.5	7.4	0.8

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 48 6.73	S. 22 37 1.5	1.0093306	5 7.1	272 51 16.1	N. 0 49 38.6	1.003
2	17 48 19.68	22 37 14.2	.0100218	5 3.4	272 53 4.2	0 49 34.2	.003
3	17 48 33.00	22 37 26.9	.0107097	4 59.7	272 54 52.3	0 49 29.7	.003
4	17 48 46.70	22 37 39.5	.0113940	4 56.0	272 56 40.4	0 49 25.3	.003
5	17 49 0.77	22 37 52.2	.0120745	4 52.3	272 58 28.5	0 49 20.9	.003
6	17 49 15.22	22 38 4.8	.0127512	4 48.6	273 0 16.6	0 49 16.4	.003
7	17 49 30.03	22 38 17.4	.0134238	4 44.9	273 2 4.6	0 49 12.0	.003
8	17 49 45.21	22 38 30.0	.0140922	4 41.2	273 3 52.7	0 49 7.6	.003
9	17 50 0.75	22 38 42.5	.0147563	4 37.5	273 5 40.8	0 49 3.2	.003
10	17 50 16.65	22 38 54.9	.0154159	4 33.8	273 7 28.9	0 48 58.7	.003
11	17 50 32.91	22 39 7.3	.0160707	4 30.1	273 9 16.9	0 48 54.3	.003
12	17 50 49.53	22 39 19.6	.0167208	4 26.5	273 11 5.0	0 48 49.9	.003
13	17 51 6.49	22 39 31.8	.0173658	4 22.9	273 12 53.1	0 48 45.4	.003
14	17 51 23.80	22 39 43.9	.0180057	4 19.2	273 14 41.2	0 48 41.0	.003
15	17 51 41.46	22 39 55.9	.0186403	4 15.6	273 16 29.3	0 48 36.5	.003
16	17 51 59.46	22 40 7.7	.0192695	4 12.0	273 18 17.4	0 48 32.1	.003
17	17 52 17.79	22 40 19.4	.0198931	4 8.4	273 20 5.5	0 48 27.7	.003
18	17 52 36.46	22 40 31.0	.0205109	4 4.8	273 21 53.5	0 48 23.2	.003
19	17 52 55.44	22 40 42.5	.0211228	4 1.2	273 23 41.6	0 48 18.8	.003
20	17 53 14.76	22 40 53.8	.0217287	3 57.6	273 25 29.7	0 48 14.3	.003
21	17 53 34.39	22 41 5.0	.0223284	3 54.0	273 27 17.8	0 48 9.9	.003
22	17 53 54.34	22 41 16.0	.0229218	3 50.4	273 29 5.9	0 48 5.4	.003
23	17 54 14.60	22 41 26.8	.0235088	3 46.8	273 30 54.0	0 48 1.0	.003
24	17 54 35.17	22 41 37.4	.0240893	3 43.2	273 32 42.1	0 47 56.6	.003
25	17 54 56.03	22 41 47.9	.0246631	3 39.6	273 34 30.2	0 47 52.1	.003
26	17 55 17.19	22 41 58.2	.0252301	3 36.0	273 36 18.3	0 47 47.7	.003
27	17 55 38.64	22 42 8.3	.0257902	3 32.4	273 38 6.4	0 47 43.2	.003
28	17 56 0.39	22 42 18.1	.0263433	3 28.8	273 39 54.5	0 47 38.8	.003
29	17 56 22.41	22 42 27.7	.0268894	3 25.2	273 41 42.6	0 47 34.3	.003
30	17 56 44.72	22 42 37.1	.0274284	3 21.7	273 43 30.7	0 47 29.9	.003
31	17 57 7.31	22 42 46.3	.0279601	3 18.2	273 45 18.8	0 47 25.4	.003
32	17 57 30.17	S. 22 42 55.2	1.0284846	3 14.6	273 47 6.9	N. 0 47 21.0	1.003

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
17 48 9.46	+ 0.53	0.57	S. 22 37 4.2	- 0.5	7.4	0.8
17 48 22.46	0.55	0.57	22 37 16.9	0.5	7.3	0.8
17 48 35.82	0.56	0.57	22 37 29.5	0.5	7.3	0.8
17 48 49.56	0.58	0.57	22 37 42.1	0.5	7.3	0.8
17 49 3.67	0.59	0.57	22 37 54.8	0.5	7.3	0.8
17 49 18.16	0.61	0.57	22 38 7.3	0.5	7.3	0.8
17 49 33.00	0.63	0.57	22 38 19.9	0.5	7.3	0.8
17 49 48.21	0.64	0.57	22 38 32.5	0.5	7.3	0.8
17 50 3.78	0.66	0.57	22 38 44.9	0.5	7.3	0.8
17 50 19.71	0.68	0.56	22 38 57.3	0.5	7.2	0.8
17 50 36.00	0.69	0.56	22 39 9.6	0.5	7.2	0.8
17 50 52.64	0.71	0.56	22 39 21.9	0.5	7.2	0.8
17 51 9.62	0.72	0.56	22 39 34.0	0.5	7.2	0.8
17 51 26.95	0.74	0.56	22 39 46.1	0.5	7.2	0.8
17 51 44.63	0.75	0.56	22 39 58.0	0.5	7.2	0.8
17 52 2.64	0.77	0.56	22 40 9.8	0.5	7.2	0.8
17 52 20.99	0.78	0.56	22 40 21.4	0.5	7.2	0.8
17 52 39.67	0.79	0.56	22 40 33.0	0.5	7.2	0.8
17 52 58.66	0.80	0.56	22 40 44.4	0.5	7.2	0.8
17 53 17.99	0.81	0.56	22 40 55.7	0.5	7.2	0.8
17 53 37.62	0.82	0.56	22 41 6.8	0.5	7.1	0.8
17 53 57.57	0.84	0.56	22 41 17.8	0.5	7.1	0.8
17 54 17.83	0.85	0.55	22 41 28.5	0.4	7.1	0.8
17 54 38.39	0.87	0.55	22 41 39.1	0.4	7.1	0.8
17 54 59.24	0.88	0.55	22 41 49.5	0.4	7.1	0.8
17 55 20.39	0.90	0.55	22 41 59.8	0.4	7.1	0.8
17 55 41.83	0.91	0.55	22 42 9.8	0.4	7.1	0.8
17 56 3.57	0.92	0.55	22 42 19.6	0.4	7.1	0.8
17 56 25.58	0.93	0.55	22 42 29.1	0.4	7.1	0.8
17 56 47.87	0.94	0.55	22 42 38.4	0.4	7.1	0.8
17 57 10.44	0.95	0.55	22 42 47.5	0.4	7.0	0.8
17 57 33.			22 42 56.4	- 0.4	7.0	0.8

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	No
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	17 57 30.17	S. 22 42 55.2	1.0284846	3 14.6	273 47 6.9	N. 0 47 21.0	1.003
2	17 57 53.30	22 43 3.8	.0290016	3 11.1	273 48 55.1	0 47 16.5	.003
3	17 58 16.70	22 43 12.1	.0295111	3 7.5	273 50 43.2	0 47 12.1	.003
4	17 58 40.36	22 43 20.2	.0300130	3 4.0	273 52 31.3	0 47 7.6	.003
5	17 59 4.27	22 43 28.1	.0305072	3 0.4	273 54 19.4	0 47 3.1	.003
6	17 59 28.44	22 43 35.6	.0309935	2 56.9	273 56 7.5	0 46 58.7	.003
7	17 59 52.86	22 43 42.9	.0314719	2 53.3	273 57 55.7	0 46 54.2	.003
8	18 0 17.52	22 43 49.9	.0319423	2 49.8	273 59 43.8	0 46 49.8	.003
9	18 0 42.42	22 43 56.6	.0324046	2 46.3	274 1 31.9	0 46 45.3	.003
10	18 1 7.56	22 44 3.0	.0328585	2 42.8	274 3 20.0	0 46 40.9	.003
11	18 1 32.93	22 44 9.1	.0333042	2 39.3	274 5 8.2	0 46 36.4	.003
12	18 1 58.52	22 44 14.8	.0337414	2 35.8	274 6 56.3	0 46 31.9	.003
13	18 2 24.34	22 44 20.1	.0341700	2 32.3	274 8 44.4	0 46 27.5	.003
14	18 2 50.38	22 44 25.1	.0345900	2 28.8	274 10 32.6	0 46 23.0	.003
15	18 3 16.63	22 44 29.7	.0350013	2 25.3	274 12 20.7	0 46 18.5	.003
16	18 3 43.08	22 44 34.0	.0354038	2 21.8	274 14 8.8	0 46 14.1	.003
17	18 4 9.74	22 44 37.9	.0357974	2 18.3	274 15 57.0	0 46 9.6	.003
18	18 4 36.60	22 44 41.4	.0361821	2 14.9	274 17 45.1	0 46 5.1	.003
19	18 5 3.65	22 44 44.6	.0365578	2 11.4	274 19 33.3	0 46 0.7	.003
20	18 5 30.88	22 44 47.4	.0369243	2 7.9	274 21 21.4	0 45 56.2	.003
21	18 5 58.29	22 44 49.8	.0372818	2 4.4	274 23 9.6	0 45 51.7	.003
22	18 6 25.88	22 44 51.8	.0376301	2 0.9	274 24 57.7	0 45 47.3	.003
23	18 6 53.64	22 44 53.5	.0379691	1 57.4	274 26 45.9	0 45 42.8	.003
24	18 7 21.56	22 44 54.7	.0382989	1 54.0	274 28 34.0	0 45 38.3	.003
25	18 7 49.65	22 44 55.5	.0386193	1 50.5	274 30 22.2	0 45 33.8	.003
26	18 8 17.89	22 44 56.0	.0389304	1 47.0	274 32 10.3	0 45 29.4	.003
27	18 8 46.29	22 44 56.0	.0392320	1 43.5	274 33 58.5	0 45 24.9	.003
28	18 9 14.83	22 44 55.6	.0395242	1 40.0	274 35 46.7	0 45 20.4	.003
29	18 9 43.52	22 44 54.8	.0398069	1 36.6	274 37 34.8	0 45 16.0	.003
30	18 10 12.34	22 44 53.6	.0400800	1 33.2	274 39 23.0	0 45 11.5	.003
31	18 10 41.30	S. 22 44 52.0	1.0403435	1 29.7	274 41 11.2	N. 0 45 7.0	1.003

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
1	17 57 33.28	+ 0.96	0.55	S. 22 42 56.4	- 0.4	7.0	0.8
2	17 57 56.39	0.97	0.55	22 43 4.9	0.4	7.0	0.8
3	17 58 19.77	0.98	0.55	22 43 13.2	0.3	7.0	0.8
4	17 58 43.41	0.99	0.55	22 43 21.2	0.3	7.0	0.8
5	17 59 7.29	1.00	0.55	22 43 29.1	0.3	7.0	0.8
6	17 59 31.43	1.01	0.54	22 43 36.5	0.3	7.0	0.8
7	17 59 55.82	1.02	0.54	22 43 43.8	0.3	7.0	0.8
8	18 0 20.45	1.03	0.54	22 43 50.7	0.3	7.0	0.8
9	18 0 45.31	1.04	0.54	22 43 57.4	0.3	7.0	0.8
0	18 1 10.42	1.05	0.54	22 44 3.7	0.3	7.0	0.8
1	18 1 35.75	1.06	0.54	22 44 9.8	0.2	7.0	0.8
2	18 2 1.30	1.07	0.54	22 44 15.4	0.2	7.0	0.8
3	18 2 27.08	1.08	0.54	22 44 20.7	0.2	6.9	0.8
4	18 2 53.08	1.09	0.54	22 44 25.6	0.2	6.9	0.8
5	18 3 19.29	1.10	0.54	22 44 30.2	0.2	6.9	0.8
6	18 3 45.70	1.11	0.54	22 44 34.4	0.2	6.9	0.8
7	18 4 12.31	1.12	0.54	22 44 38.3	0.2	6.9	0.8
8	18 4 39.12	1.12	0.54	22 44 41.7	0.1	6.9	0.8
9	18 5 6.12	1.13	0.54	22 44 44.9	0.1	6.9	0.8
0	18 5 33.30	1.14	0.54	22 44 47.6	0.1	6.9	0.8
1	18 6 0.66	1.14	0.54	22 44 50.0	0.1	6.9	0.8
2	18 6 28.20	1.15	0.54	22 44 52.0	0.1	6.9	0.8
3	18 6 55.91	1.16	0.54	22 44 53.6	- 0.1	6.9	0.8
4	18 7 23.77	1.17	0.54	22 44 54.8	0.0	6.9	0.8
5	18 7 51.81	1.17	0.54	22 44 55.6	0.0	6.9	0.8
6	18 8 20.00	1.18	0.54	22 44 56.0	0.0	6.9	0.8
7	18 8 48.34	1.19	0.53	22 44 56.0	0.0	6.9	0.8
8	18 9 16.83	1.19	0.53	22 44 55.5	0.0	6.9	0.8
9	18 9 45.46	1.20	0.53	22 44 54.7	0.0	6.9	0.8
0	18 10 14.22	1.21	0.53	22 44 53.5	+ 0.1	6.9	0.8
1	18 10 43.12	+ 1.21	0.53	S. 22 44 51.9	+ 0.1	6.9	0.8

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	18 10 41.30	S. 22 44 52.0	1.0403435	1 29.7	274 41 11.2	N. 0 45 7.0	1.003
2	18 11 10.38	22 44 49.9	.0405974	1 26.2	274 42 59.3	0 45 2.5	.003
3	18 11 39.59	22 44 47.4	.0408416	1 22.8	274 44 47.5	0 44 58.0	.003
4	18 12 8.93	22 44 44.4	.0410761	1 19.4	274 46 35.7	0 44 53.6	.003
5	18 12 38.37	22 44 41.0	.0413007	1 16.0	274 48 23.8	0 44 49.1	.003
6	18 13 7.93	22 44 37.2	.0415155	1 12.6	274 50 12.0	0 44 44.6	.003
7	18 13 37.60	22 44 32.9	.0417204	1 9.1	274 52 0.2	0 44 40.1	.003
8	18 14 7.36	22 44 28.2	.0419153	1 5.7	274 53 48.4	0 44 35.6	.003
9	18 14 37.22	22 44 23.0	.0421003	1 2.2	274 55 36.6	0 44 31.1	.003
10	18 15 7.18	22 44 17.4	.0422752	0 58.8	274 57 24.7	0 44 26.7	.003
11	18 15 37.22	22 44 11.3	.0424401	0 55.4	274 59 12.9	0 44 22.2	.003
12	18 16 7.33	22 44 4.8	.0425948	0 51.9	275 1 1.1	0 44 17.7	.003
13	18 16 37.52	22 43 57.8	.0427394	0 48.5	275 2 49.3	0 44 13.2	.003
14	18 17 7.79	22 43 50.4	.0428738	0 45.0	275 4 37.5	0 44 8.7	.003
15	18 17 38.11	22 43 42.5	.0429980	0 41.6	275 6 25.6	0 44 4.2	.003
16	18 18 8.50	22 43 34.1	.0431120	0 38.2	275 8 13.8	0 43 59.7	.003
17	18 18 38.93	22 43 25.3	.0432158	0 34.8	275 10 2.0	0 43 55.3	.003
18	18 19 9.42	22 43 16.1	.0433093	0 31.4	275 11 50.2	0 43 50.8	.003
19	18 19 39.95	22 43 6.4	.0433926	0 27.9	275 13 38.4	0 43 46.3	.003
20	18 20 10.51	22 42 56.3	.0434655	0 24.5	275 15 26.6	0 43 41.8	.003
21	18 20 41.11	22 42 45.7	.0435283	0 21.0	275 17 14.8	0 43 37.3	.003
22	18 21 11.73	22 42 34.7	.0435808	0 17.6	275 19 3.0	0 43 32.8	.003
23	18 21 42.37	22 42 23.2	.0436230	0 14.2	275 20 51.2	0 43 28.3	.003
24	18 22 13.03	22 42 11.3	.0436550	0 10.8	275 22 39.4	0 43 23.8	.003
25	18 22 43.70	22 41 59.0	.0436768	0 7.3	275 24 27.5	0 43 19.3	.003
26	18 23 14.38	22 41 46.2	.0436883	0 3.9	275 26 15.7	0 43 14.8	.003
27	18 23 45.05	22 41 33.1	.0436896	$\left\{ \begin{smallmatrix} 0 \\ 57.1 \end{smallmatrix} \right\}$	275 28 3.9	0 43 10.3	.003
28	18 24 15.73	22 41 19.5	.0436806	23 53.7	275 29 52.1	0 43 5.8	.003
29	18 24 46.40	22 41 5.5	.0436614	23 50.3	275 31 40.3	0 43 1.3	.003
30	18 25 17.05	22 40 51.0	.0436320	23 46.9	275 33 28.5	0 42 56.8	.003
31	18 25 47.69	22 40 36.1	.0435923	23 43.5	275 35 16.7	0 42 52.3	.003
32	18 26 18.31	S. 22 40 20.8	1.0435424	23 40.1	275 37 4.9	N. 0 42 47.8	1.003

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
18 10 43.12	+ 1.21	0.53	S. 22 44 51.9	+ 0.1	6.9	0.8
18 11 12.14	1.21	0.53	22 44 49.8	0.1	6.8	0.8
18 11 41.28	1.22	0.53	22 44 47.2	0.1	6.8	0.8
18 12 10.56	1.22	0.53	22 44 44.2	0.1	6.8	0.8
18 12 39.94	1.23	0.53	22 44 40.8	0.2	6.8	0.8
18 13 9.43	1.23	0.53	22 44 37.0	0.2	6.8	0.8
18 13 39.04	1.24	0.53	22 44 32.7	0.2	6.8	0.8
18 14 8.73	1.24	0.53	22 44 28.0	0.2	6.8	0.8
18 14 38.52	1.25	0.53	22 44 22.7	0.2	6.8	0.8
18 15 8.41	1.25	0.53	22 44 17.1	0.2	6.8	0.8
18 15 38.38	1.25	0.53	22 44 11.0	0.3	6.8	0.8
18 16 8.42	1.25	0.53	22 44 4.5	0.3	6.8	0.8
18 16 38.54	1.26	0.53	22 43 57.5	0.3	6.8	0.8
18 17 8.74	1.26	0.53	22 43 50.1	0.3	6.8	0.8
18 17 38.99	1.26	0.53	22 43 42.3	0.3	6.8	0.8
18 18 9.31	1.26	0.53	22 43 33.9	0.4	6.8	0.8
18 18 39.67	1.27	0.53	22 43 25.1	0.4	6.8	0.8
18 19 10.09	1.27	0.53	22 43 15.9	0.4	6.8	0.8
18 19 40.55	1.27	0.53	22 43 6.2	0.4	6.8	0.8
18 20 11.04	1.27	0.53	22 42 56.1	0.4	6.8	0.8
18 20 41.56	1.27	0.53	22 42 45.6	0.4	6.8	0.8
18 21 12.11	1.27	0.53	22 42 34.6	0.5	6.8	0.8
18 21 42.68	1.27	0.53	22 42 23.1	0.5	6.8	0.8
18 22 13.26	1.27	0.53	22 42 11.2	0.5	6.8	0.8
18 22 43.86	1.27	0.53	22 41 58.9	0.5	6.8	0.8
18 23 14.47	1.27	0.53	22 41 46.2	0.5	6.8	0.8
{ 10 32 45.07 } { 10 24 15.67 }	{ 1.27 } { 1.27 }	{ 0.53 } { 0.53 }	{ 22 41 33.1 } { 22 41 19.5 }	{ 0.5 } { 0.5 }	{ 6.8 } { 6.8 }	{ 0.8 } { 0.8 }
18 24 46.27	1.27	0.53	22 41 5.6	0.6	6.8	0.8
18 25 16	1.27	0.53	22 40 51.1	0.6	6.8	0.8
18 25 18	1.27	0.53	22 40 36.2	0.6	6.8	0.8
18 26	1.27	0.53	22 40 20.9	0.6	6.8	0.8
18 26			22 40 5.3	+ 0.7	6.8	0.8

JANUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ["]		^h ^m	[°] ['] ["]	[°] ['] ["]	
1	23 13 31.58	S. 5 48 59.8	1.3111288	4 28.9	349 36 48.7	S. 0 46 13.0	1.30330
2	23 13 38.34	5 48 14.8	.3114630	4 25.1	349 37 27.3	0 46 12.9	.30330
3	23 13 45.26	5 47 28.7	.3117942	4 21.3	349 38 5.9	0 46 12.9	.30330
4	23 13 52.34	5 46 41.6	.3121224	4 17.5	349 38 44.6	0 46 12.8	.30330
5	23 13 59.58	5 45 53.5	.3124476	4 13.7	349 39 23.3	0 46 12.8	.30330
6	23 14 6.98	5 45 4.5	.3127698	4 9.9	349 40 2.1	0 46 12.7	.30330
7	23 14 14.53	5 44 14.5	.3130887	4 6.1	349 40 40.8	0 46 12.6	.30330
8	23 14 22.23	5 43 23.6	.3134043	4 2.3	349 41 19.4	0 46 12.6	.30330
9	23 14 30.09	5 42 31.7	.3137165	3 58.5	349 41 58.1	0 46 12.5	.30330
10	23 14 38.09	5 41 38.9	.3140253	3 54.7	349 42 36.8	0 46 12.5	.30330
11	23 14 46.24	5 40 45.2	.3143306	3 50.9	349 43 15.4	0 46 12.4	.30330
12	23 14 54.53	5 39 50.6	.3146323	3 47.1	349 43 54.1	0 46 12.4	.30330
13	23 15 2.97	5 38 55.1	.3149303	3 43.3	349 44 32.7	0 46 12.3	.30330
14	23 15 11.55	5 37 58.8	.3152245	3 39.5	349 45 11.4	0 46 12.2	.30330
15	23 15 20.26	5 37 1.5	.3155150	3 35.7	349 45 50.0	0 46 12.2	.30330
16	23 15 29.12	5 36 3.4	.3158015	3 31.9	349 46 28.7	0 46 12.1	.30330
17	23 15 38.11	5 35 4.4	.3160840	3 28.1	349 47 7.3	0 46 12.1	.30330
18	23 15 47.24	5 34 4.6	.3163625	3 24.4	349 47 46.0	0 46 12.0	.30330
19	23 15 56.50	5 33 4.0	.3166369	3 20.6	349 48 24.6	0 46 11.9	.30330
20	23 16 5.89	5 32 2.5	.3169071	3 16.8	349 49 3.3	0 46 11.9	.30330
21	23 16 15.41	5 31 0.3	.3171730	3 13.0	349 49 41.9	0 46 11.8	.30330
22	23 16 25.05	5 29 57.3	.3174345	3 9.3	349 50 20.6	0 46 11.8	.30330
23	23 16 34.81	5 28 53.6	.3176916	3 5.5	349 50 59.2	0 46 11.7	.30330
24	23 16 44.70	5 27 49.1	.3179443	3 1.7	349 51 37.9	0 46 11.7	.30330
25	23 16 54.70	5 26 43.9	.3181924	2 57.9	349 52 16.5	0 46 11.6	.30330
26	23 17 4.82	5 25 38.0	.3184359	2 54.2	349 52 55.2	0 46 11.5	.30330
27	23 17 15.04	5 24 31.4	.3186747	2 50.4	349 53 33.8	0 46 11.5	.30330
28	23 17 25.38	5 23 24.1	.3189088	2 46.7	349 54 12.4	0 46 11.4	.30330
29	23 17 35.83	5 22 16.2	.3191382	2 42.9	349 54 51.1	0 46 11.4	.30330
30	23 17 46.38	5 21 7.6	.3193627	2 39.2	349 55 29.7	0 46 11.3	.30330
31	23 17 57.03	5 19 58.4	.3195824	2 35.4	349 56 8.3	0 46 11.3	.30330
32	23 18 7.79	S. 5 18 48.5	1.3197972	2 31.7	349 56 47.0	S. 0 46 11.3	.30330

JANUARY, 1841.

At Transit over the Meridian of Greenwich:

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ′ ″</i>	<i>″</i>	<i>″</i>	<i>″</i>
23 13 32 '83	+ 0 '28	0 '13	S. 5 48 51 '5	+ 1 '9	1 '8	0 '4
23 13 39 '60	0 '29	0 '13	5 48 6 '4	1 '9	1 '8	0 '4
23 13 46 '53	0 '29	0 '13	5 47 20 '2	1 '9	1 '8	0 '4
23 13 53 '62	0 '30	0 '12	5 46 33 '1	2 '0	1 '8	0 '4
23 14 0 '87	0 '31	0 '12	5 45 45 '0	2 '0	1 '8	0 '4
23 14 8 '28	0 '31	0 '12	5 44 55 '9	2 '1	1 '8	0 '4
23 14 15 '83	0 '32	0 '12	5 44 5 '9	2 '1	1 '8	0 '4
23 14 23 '54	0 '32	0 '12	5 43 15 '0	2 '1	1 '8	0 '4
23 14 31 '41	0 '33	0 '12	5 42 23 '0	2 '2	1 '8	0 '4
23 14 39 '41	0 '34	0 '12	5 41 30 '2	2 '2	1 '8	0 '4
23 14 47 '56	0 '34	0 '12	5 40 36 '5	2 '3	1 '8	0 '4
23 14 55 '85	0 '35	0 '12	5 39 42 '0	2 '3	1 '8	0 '4
23 15 4 '29	0 '35	0 '12	5 38 46 '5	2 '3	1 '8	0 '4
23 15 12 '87	0 '36	0 '12	5 37 50 '2	2 '4	1 '8	0 '4
23 15 21 '58	0 '37	0 '12	5 36 52 '9	2 '4	1 '8	0 '4
23 15 30 '43	0 '37	0 '12	5 35 54 '8	2 '4	1 '8	0 '4
23 15 39 '42	0 '38	0 '12	5 34 55 '8	2 '5	1 '8	0 '4
23 15 48 '54	0 '38	0 '12	5 33 56 '1	2 '5	1 '8	0 '4
23 15 57 '79	0 '39	0 '12	5 32 55 '5	2 '5	1 '8	0 '4
23 16 7 '18	0 '39	0 '12	5 31 54 '0	2 '6	1 '8	0 '4
23 16 16 '69	0 '40	0 '12	5 30 51 '9	2 '6	1 '8	0 '4
23 16 26 '32	0 '40	0 '12	5 29 48 '9	2 '6	1 '8	0 '4
23 16 36 '07	0 '41	0 '12	5 28 45 '3	2 '7	1 '8	0 '4
23 16 45 '95	0 '41	0 '12	5 27 40 '8	2 '7	1 '8	0 '4
23 16 55 '94	0 '42	0 '12	5 26 35 '7	2 '7	1 '8	0 '4
23 17 6 '05	0 '42	0 '12	5 25 29 '9	2 '8	1 '8	0 '4
23 17 16 '26	0 '43	0 '12	5 24 23 '4	2 '8	1 '8	0 '4
23 17 26 '58	0 '43	0 '12	5 23 16 '2	2 '8	1 '8	0 '4
		0 '12	5 22 8 '4	2 '8	1 '8	0 '4
		0 '12	5 20 59 '9	2 '9	1 '8	0 '4
		0 '12	5 19 50 '8	2 '9	1 '8	0 '4
			S. 5 18 41 '0	+ 2 '9	1 '8	0 '4

FEBRUARY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. of Rad. Ve.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	^h ^m ^s	[°] ['] ^{''}		^h ^m	[°] ['] ^{''}	[°] ['] ^{''}	
1	23 18 7.79	S. 5 18 48.5	1.3197972	2 31.7	349 56 47.0	S. 0 46 11.2	1.30301
2	23 18 18.64	5 17 38.1	1.3200071	2 27.9	349 57 25.6	0 46 11.1	1.30301
3	23 18 29.58	5 16 27.1	1.3202119	2 24.2	349 58 4.2	0 46 11.1	1.30301
4	23 18 40.62	5 15 15.5	1.3204117	2 20.4	349 58 42.9	0 46 11.0	1.30301
5	23 18 51.75	5 14 3.4	1.3206065	2 16.7	349 59 21.5	0 46 10.9	1.30301
6	23 19 2.96	5 12 50.8	1.3207962	2 12.9	350 0 0.1	0 46 10.9	1.30301
7	23 19 14.26	5 11 37.6	1.3209807	2 9.2	350 0 38.7	0 46 10.8	1.30301
8	23 19 25.64	5 10 23.9	1.3211600	2 5.4	350 1 17.4	0 46 10.8	1.30301
9	23 19 37.11	5 9 9.7	1.3213341	2 1.7	350 1 56.0	0 46 10.7	1.30301
10	23 19 48.65	5 7 55.0	1.3215030	1 57.9	350 2 34.6	0 46 10.6	1.30301
11	23 20 0.27	5 6 39.9	1.3216666	1 54.2	350 3 13.2	0 46 10.6	1.30301
12	23 20 11.96	5 5 24.3	1.3218250	1 50.4	350 3 51.8	0 46 10.5	1.30301
13	23 20 23.72	5 4 8.3	1.3219779	1 46.7	350 4 30.5	0 46 10.5	1.30301
14	23 20 35.54	5 2 51.8	1.3221255	1 43.0	350 5 9.1	0 46 10.4	1.30301
15	23 20 47.44	5 1 35.0	1.3222676	1 39.3	350 5 47.7	0 46 10.3	1.30301
16	23 20 59.40	5 0 17.8	1.3224042	1 35.5	350 6 26.3	0 46 10.3	1.30301
17	23 21 11.42	4 59 0.3	1.3225353	1 31.8	350 7 4.9	0 46 10.2	1.30301
18	23 21 23.49	4 57 42.4	1.3226609	1 28.0	350 7 43.5	0 46 10.2	1.30301
19	23 21 35.63	4 56 24.2	1.3227809	1 24.3	350 8 22.1	0 46 10.1	1.30301
20	23 21 47.81	4 55 5.6	1.3228953	1 20.6	350 9 0.7	0 46 10.0	1.30301
21	23 22 0.04	4 53 46.8	1.3230040	1 16.9	350 9 39.3	0 46 10.0	1.30301
22	23 22 12.32	4 52 27.7	1.3231072	1 13.1	350 10 17.9	0 46 9.9	1.30301
23	23 22 24.65	4 51 8.3	1.3232047	1 9.4	350 10 56.5	0 46 9.8	1.30301
24	23 22 37.02	4 49 48.6	1.3232965	1 5.7	350 11 35.1	0 46 9.8	1.30301
25	23 22 49.42	4 48 28.7	1.3233827	1 2.0	350 12 13.7	0 46 9.7	1.30301
26	23 23 1.86	4 47 8.7	1.3234632	0 58.2	350 12 52.3	0 46 9.7	1.30301
27	23 23 14.33	4 45 48.4	1.3235379	0 54.5	350 13 30.9	0 46 9.6	1.30301
28	23 23 26.83	4 44 28.0	1.3236069	0 50.8	350 14 9.5	0 46 9.5	1.30301
29	23 23 39.36	S. 4 43 7.4	1.3236702	0 47.1	350 14 48.1	S. 0 46 9.5	1.30301

FEBRUARY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
23 18 8 ⁹⁴	+ 0 ⁴⁵	0 ¹²	S. 5 18 41 ⁰	+ 2 ⁹	1 ⁸	0 ⁴
23 18 19 ⁷⁷	0 ⁴⁵	0 ¹²	5 17 30 ⁷	2 ⁹	1 ⁸	0 ⁴
23 18 30 ⁶⁹	0 ⁴⁶	0 ¹²	5 16 19 ⁹	3 ⁰	1 ⁸	0 ⁴
23 18 41 ⁷¹	0 ⁴⁶	0 ¹²	5 15 8 ⁴	3 ⁰	1 ⁸	0 ⁴
23 18 52 ⁸²	0 ⁴⁶	0 ¹²	5 13 56 ⁵	3 ⁰	1 ⁸	0 ⁴
23 19 4 ⁰¹	0 ⁴⁷	0 ¹²	5 12 44 ⁰	3 ⁰	1 ⁸	0 ⁴
23 19 15 ²⁹	0 ⁴⁷	0 ¹²	5 11 31 ⁰	3 ¹	1 ⁸	0 ⁴
23 19 26 ⁶⁵	0 ⁴⁷	0 ¹²	5 10 17 ⁴	3 ¹	1 ⁸	0 ⁴
23 19 38 ⁰⁹	0 ⁴⁸	0 ¹²	5 9 3 ⁴	3 ¹	1 ⁸	0 ⁴
23 19 49 ⁶¹	0 ⁴⁸	0 ¹²	5 7 48 ⁹	3 ¹	1 ⁸	0 ⁴
23 20 1 ²⁰	0 ⁴⁸	0 ¹²	5 6 33 ⁹	3 ¹	1 ⁸	0 ⁴
23 20 12 ⁸⁶	0 ⁴⁹	0 ¹²	5 5 18 ⁵	3 ²	1 ⁸	0 ⁴
23 20 24 ⁶⁰	0 ⁴⁹	0 ¹²	5 4 2 ⁶	3 ²	1 ⁸	0 ⁴
23 20 36 ³⁹	0 ⁴⁹	0 ¹²	5 2 46 ³	3 ²	1 ⁸	0 ⁴
23 20 48 ²⁶	0 ⁵⁰	0 ¹²	5 1 29 ⁷	3 ²	1 ⁸	0 ⁴
23 21 0 ²⁰	0 ⁵⁰	0 ¹²	5 0 12 ⁷	3 ²	1 ⁸	0 ⁴
23 21 12 ¹⁹	0 ⁵⁰	0 ¹²	4 58 55 ³	3 ²	1 ⁸	0 ⁴
23 21 24 ²³	0 ⁵⁰	0 ¹²	4 57 37 ⁶	3 ²	1 ⁸	0 ⁴
23 21 36 ³⁴	0 ⁵¹	0 ¹²	4 56 19 ⁶	3 ³	1 ⁸	0 ⁴
23 21 48 ⁵⁰	0 ⁵¹	0 ¹²	4 55 1 ²	3 ³	1 ⁸	0 ⁴
23 22 0 ⁷⁰	0 ⁵¹	0 ¹²	4 53 42 ⁶	3 ³	1 ⁸	0 ⁴
23 22 12 ⁹⁵	0 ⁵¹	0 ¹²	4 52 23 ⁷	3 ³	1 ⁸	0 ⁴
23 22 25 ²⁵	0 ⁵¹	0 ¹²	4 51 4 ⁵	3 ³	1 ⁸	0 ⁴
23 22 37 ⁵⁹	0 ⁵¹	0 ¹²	4 49 45 ⁰	3 ³	1 ⁸	0 ⁴
23 22 49 ⁹⁶	0 ⁵²	0 ¹²	4 48 25 ³	3 ³	1 ⁸	0 ⁴
23 23 2 ³⁷	0 ⁵²	0 ¹²	4 47 5 ⁵	3 ³	1 ⁸	0 ⁴
23 23 14 ⁸⁰	0 ⁵²	0 ¹²	4 45 45 ⁴	3 ³	1 ⁸	0 ⁴
23 23 27 ²⁷	0 ⁵²	0 ¹²	4 44 25 ²	3 ³	1 ⁸	0 ⁴
23 23		0 ¹²	S. 4 43 4 ⁸	+ 3 ⁴	1 ⁸	0 ⁴

MARCH, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	
	h m s	° ′ ″		h m	° ′ ″	° ′ ″		
1	23 23 39.36	S. 4 43 7.4	1.3236702	0 47.1	350 14 48.1	S. 0 46 9.5	1.3030	
2	23 23 51.91	4 41 46.7	.3237277	0 43.3	350 15 26.7	0 46 9.4	.3030	
3	23 24 4.48	4 40 25.9	.3237795	0 39.6	350 16 5.3	0 46 9.3	.3030	
4	23 24 17.07	4 39 5.0	.3238255	0 35.9	350 16 43.9	0 46 9.3	.3030	
5	23 24 29.68	4 37 44.0	.3238658	0 32.2	350 17 22.5	0 46 9.2	.3030	
6	23 24 42.30	4 36 22.9	.3239005	0 28.4	350 18 1.1	0 46 9.2	.3030	
7	23 24 54.94	4 35 1.8	.3239294	0 24.7	350 18 39.7	0 46 9.1	.3030	
8	23 25 7.59	4 33 40.7	.3239526	0 21.0	350 19 18.3	0 46 9.0	.3030	
9	23 25 20.24	4 32 19.5	.3239701	0 17.3	350 19 56.9	0 46 9.0	.3030	
10	23 25 32.90	4 30 58.3	.3239819	0 13.5	350 20 35.5	0 46 8.9	.3030	
11	23 25 45.56	4 29 37.1	.3239880	0 9.8	350 21 14.1	0 46 8.8	.3030	
12	23 25 58.22	4 28 15.9	.3239883	0 6.1	350 21 52.7	0 46 8.8	.3030	
13	23 26 10.88	4 26 54.8	.3239829	{ 23 54.9	350 22 31.3	0 46 8.7	.3030	
14	23 26 23.53	4 25 33.8	.3239718	23 54.9	350 23 9.8	0 46 8.6	.3030	
15	23 26 36.17	4 24 12.8	.3239549	23 51.2	350 23 48.4	0 46 8.6	.3030	
16	23 26 48.80	4 22 51.9	.3239323	23 47.5	350 24 27.0	0 46 8.5	.3030	
17	23 27 1.42	4 21 31.1	.3239040	23 43.8	350 25 5.6	0 46 8.5	.3030	
18	23 27 14.03	4 20 10.4	.3238700	23 40.1	350 25 44.2	0 46 8.4	.3030	
19	23 27 26.61	4 18 49.9	.3238302	23 36.3	350 26 22.8	0 46 8.3	.3030	
20	23 27 39.18	4 17 29.5	.3237848	23 32.6	350 27 1.4	0 46 8.3	.3030	
21	23 27 51.72	4 16 9.2	.3237337	23 28.9	350 27 40.0	0 46 8.2	.3030	
22	23 28 4.24	4 14 49.2	.3236769	23 25.2	350 28 18.6	0 46 8.1	.3030	
23	23 28 16.72	4 13 29.4	.3236145	23 21.4	350 28 57.1	0 46 8.1	.3030	
24	23 28 29.17	4 12 9.8	.3235461	23 17.7	350 29 35.7	0 46 8.0	.3030	
25	23 28 41.59	4 10 50.5	.3234727	23 14.0	350 30 14.3	0 46 7.9	.3030	
26	23 28 53.97	4 9 31.5	.3233934	23 10.3	350 30 52.9	0 46 7.9	.3030	
27	23 29 6.30	4 8 12.7	.3233085	23 6.5	350 31 31.5	0 46 7.8	.3030	
28	23 29 18.60	4 6 54.3	.3232181	23 2.8	350 32 10.1	0 46 7.7	.3030	
29	23 29 30.85	4 5 36.1	.3231221	22 59.1	350 32 48.7	0 46 7.7	.3030	
30	23 29 43.05	4 4 18.3	.3230207	22 55.4	350 33 27.3	0 46 7.6	.3030	
31	23 29 55.20	4 3 0.8	.3229139	22 51.6	350 34 5.9	0 46 7.5	.3030	
32	23 30 7.30	S. 4 1 43.6	1.3228017	22 47.9	350 34 44.5	S. 0 46 7.5	1.3030	

MARCH, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>
23 23 39 [·] 77	+ 0 [·] 52	0 [·] 12	S. 4 43 4 [·] 8	+ 3 [·] 4	1 [·] 8	0 [·] 4
23 23 52 [·] 29	0 [·] 52	0 [·] 12	4 41 44 [·] 3	3 [·] 4	1 [·] 8	0 [·] 4
23 24 4 [·] 83	0 [·] 52	0 [·] 12	4 40 23 [·] 7	3 [·] 4	1 [·] 8	0 [·] 4
23 24 17 [·] 39	0 [·] 52	0 [·] 12	4 39 3 [·] 0	3 [·] 4	1 [·] 8	0 [·] 4
23 24 29 [·] 96	0 [·] 52	0 [·] 12	4 37 42 [·] 2	3 [·] 4	1 [·] 8	0 [·] 4
23 24 42 [·] 55	0 [·] 52	0 [·] 12	4 36 21 [·] 3	3 [·] 4	1 [·] 8	0 [·] 4
23 24 55 [·] 16	0 [·] 53	0 [·] 12	4 35 0 [·] 4	3 [·] 4	1 [·] 8	0 [·] 4
23 25 7 [·] 78	0 [·] 53	0 [·] 12	4 33 39 [·] 5	3 [·] 4	1 [·] 8	0 [·] 4
23 25 20 [·] 40	0 [·] 53	0 [·] 12	4 32 18 [·] 5	3 [·] 4	1 [·] 8	0 [·] 4
23 25 33 [·] 03	0 [·] 53	0 [·] 12	4 30 57 [·] 5	3 [·] 4	1 [·] 8	0 [·] 4
23 25 45 [·] 65	0 [·] 53	0 [·] 12	4 29 36 [·] 5	3 [·] 4	1 [·] 8	0 [·] 4
23 25 58 [·] 28	0 [·] 53	0 [·] 12	4 28 15 [·] 5	3 [·] 4	1 [·] 8	0 [·] 4
<i>{ 23 26 10[·]90 }</i>	<i>{ 0[·]53 }</i>	<i>{ 0[·]12 }</i>	<i>{ 4 26 54[·]6 }</i>	<i>{ 3[·]4 }</i>	<i>{ 1[·]8 }</i>	<i>{ 0[·]4 }</i>
<i>{ 23 26 23[·]52 }</i>	<i>{ 0[·]53 }</i>	<i>{ 0[·]12 }</i>	<i>{ 4 25 33[·]9 }</i>	<i>{ 3[·]4 }</i>	<i>{ 1[·]8 }</i>	<i>{ 0[·]4 }</i>
23 26 36 [·] 13	0 [·] 53	0 [·] 12	4 24 13 [·] 1	3 [·] 4	1 [·] 8	0 [·] 4
23 26 48 [·] 73	0 [·] 52	0 [·] 12	4 22 52 [·] 4	3 [·] 4	1 [·] 8	0 [·] 4
23 27 1 [·] 32	0 [·] 52	0 [·] 12	4 21 31 [·] 8	3 [·] 4	1 [·] 8	0 [·] 4
23 27 13 [·] 89	0 [·] 52	0 [·] 12	4 20 11 [·] 3	3 [·] 4	1 [·] 8	0 [·] 4
23 27 26 [·] 45	0 [·] 52	0 [·] 12	4 18 51 [·] 0	3 [·] 3	1 [·] 8	0 [·] 4
23 27 38 [·] 97	0 [·] 52	0 [·] 12	4 17 30 [·] 8	3 [·] 3	1 [·] 8	0 [·] 4
23 27 51 [·] 48	0 [·] 52	0 [·] 12	4 16 10 [·] 8	3 [·] 3	1 [·] 8	0 [·] 4
23 28 3 [·] 96	0 [·] 52	0 [·] 12	4 14 50 [·] 9	3 [·] 3	1 [·] 8	0 [·] 4
23 28 16 [·] 42	0 [·] 52	0 [·] 12	4 13 31 [·] 3	3 [·] 3	1 [·] 8	0 [·] 4
23 28 28 [·] 84	0 [·] 52	0 [·] 12	4 12 11 [·] 9	3 [·] 3	1 [·] 8	0 [·] 4
23 28 41 [·] 22	0 [·] 52	0 [·] 12	4 10 52 [·] 7	3 [·] 3	1 [·] 8	0 [·] 4
23 28 53 [·] 57	0 [·] 51	0 [·] 12	4 9 33 [·] 9	3 [·] 3	1 [·] 8	0 [·] 4
23 29 5 [·] 88	0 [·] 51	0 [·] 12	4 8 15 [·] 4	3 [·] 3	1 [·] 8	0 [·] 4
23 29 18 [·] 14	0 [·] 51	0 [·] 12	4 6 57 [·] 1	3 [·] 3	1 [·] 8	0 [·] 4
23 29 30 [·] 36	0 [·] 51	0 [·] 12	4 5 39 [·] 2	3 [·] 2	1 [·] 8	0 [·] 4
23 29 42 [·] 53	0 [·] 51	0 [·] 12	4 4 21 [·] 6	3 [·] 2	1 [·] 8	0 [·] 4
23 29 54 [·] 65	0 [·] 50	0 [·] 12	4 3 4 [·] 4	3 [·] 2	1 [·] 8	0 [·] 4
23 30 6 [·] 72	0 [·] 50	0 [·] 12	4 1 47 [·] 4	3 [·] 2	1 [·] 8	0 [·] 4
23 30 --		0 [·] 12	S. 4 0 30 [·] 8	+ 3 [·] 2	1 [·] 8	0 [·] 4

APRIL, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.					
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad.			
								Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>				
1	23 30 7.30	S. 4 1 43.6	1.3228017	22 47.9	350 34 44.5	S. 0 46 7.5	1.303			
2	23 30 19.35	4 0 26.9	.3226841	22 44.2	350 35 23.1	0 46 7.4	.303			
3	23 30 31.34	3 59 10.5	.3225612	22 40.5	350 36 1.7	0 46 7.3	.303			
4	23 30 43.27	3 57 54.5	.3224330	22 36.7	350 36 40.3	0 46 7.3	.303			
5	23 30 55.14	3 56 39.0	.3222995	22 33.0	350 37 18.9	0 46 7.2	.303			
6	23 31 6.95	3 55 23.9	.3221608	22 29.2	350 37 57.5	0 46 7.1	.303			
7	23 31 18.69	3 54 9.2	.3220169	22 25.5	350 38 36.1	0 46 7.1	.303			
8	23 31 30.37	3 52 55.0	.3218678	22 21.7	350 39 14.7	0 46 7.0	.303			
9	23 31 41.97	3 51 41.3	.3217136	22 18.0	350 39 53.3	0 46 6.9	.303			
10	23 31 53.50	3 50 28.0	.3215543	22 14.3	350 40 31.9	0 46 6.9	.303			
11	23 32 4.96	3 49 15.2	.3213899	22 10.6	350 41 10.5	0 46 6.8	.303			
12	23 32 16.33	3 48 3.0	.3212205	22 6.8	350 41 49.1	0 46 6.7	.303			
13	23 32 27.63	3 46 51.2	.3210460	22 3.1	350 42 27.7	0 46 6.6	.303			
14	23 32 38.85	3 45 40.0	.3208666	21 59.3	350 43 6.3	0 46 6.6	.303			
15	23 32 49.98	3 44 29.4	.3206823	21 55.6	350 43 44.9	0 46 6.5	.303			
16	23 33 1.03	3 43 19.4	.3204931	21 51.8	350 44 23.5	0 46 6.4	.303			
17	23 33 11.99	3 42 10.0	.3202990	21 48.1	350 45 2.1	0 46 6.4	.303			
18	23 33 22.86	3 41 1.2	.3201001	21 44.3	350 45 40.7	0 46 6.3	.303			
19	23 33 33.64	3 39 53.0	.3198965	21 40.5	350 46 19.3	0 46 6.2	.303			
20	23 33 44.32	3 38 45.5	.3196881	21 36.7	350 46 58.0	0 46 6.2	.303			
21	23 33 54.90	3 37 38.6	.3194751	21 33.0	350 47 36.6	0 46 6.1	.303			
22	23 34 5.39	3 36 32.4	.3192574	21 29.2	350 48 15.2	0 46 6.0	.303			
23	23 34 15.77	3 35 26.9	.3190352	21 25.5	350 48 53.8	0 46 6.0	.303			
24	23 34 26.05	3 34 22.0	.3188085	21 21.7	350 49 32.4	0 46 5.9	.303			
25	23 34 36.21	3 33 17.9	.3185773	21 18.0	350 50 11.0	0 46 5.8	.303			
26	23 34 46.27	3 32 14.4	.3183418	21 14.2	350 50 49.7	0 46 5.8	.303			
27	23 34 56.22	3 31 11.7	.3181019	21 10.4	350 51 28.3	0 46 5.7	.303			
28	23 35 6.06	3 30 9.8	.3178578	21 6.6	350 52 6.9	0 46 5.6				
29	23 35 15.78	3 29 8.6	.3176096	21 2.9	350 52 45.5					
30	23 35 25.39	3 28 8.3	.3173573	20 59.1	350 53 24.2					
31	23 35 34.88	S. 3 27 8.7	1.3171010	20 55.3	350 54 2.8					

APRIL, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ' "</i>	<i>"</i>	<i>"</i>	<i>"</i>
23 30 18.74	+ 0.50	0.12	S. 4 0 30.8	+ 3.2	1.8	0.4
23 30 30.71	0.50	0.12	3 59 14.6	3.2	1.8	0.4
23 30 42.61	0.49	0.12	3 57 58.8	3.2	1.8	0.4
23 30 54.45	0.49	0.12	3 56 43.4	3.1	1.8	0.4
23 31 6.23	0.49	0.12	3 55 28.5	3.1	1.8	0.4
23 31 17.95	0.49	0.12	3 54 14.0	3.1	1.8	0.4
23 31 29.60	0.48	0.12	3 52 59.9	3.1	1.8	0.4
23 31 41.19	0.48	0.12	3 51 46.3	3.1	1.8	0.4
23 31 52.69	0.48	0.12	3 50 33.2	3.0	1.8	0.4
23 32 4.12	0.47	0.12	3 49 20.5	3.0	1.8	0.4
23 32 15.48	0.47	0.12	3 48 8.4	3.0	1.8	0.4
23 32 26.75	0.47	0.12	3 46 56.9	3.0	1.8	0.4
23 32 37.94	0.46	0.12	3 45 45.8	3.0	1.8	0.4
23 32 49.05	0.46	0.12	3 44 35.3	2.9	1.8	0.4
23 33 0.07	0.46	0.12	3 43 25.5	2.9	1.8	0.4
23 33 11.01	0.45	0.12	3 42 16.2	2.9	1.8	0.4
23 33 21.86	0.45	0.12	3 41 7.5	2.9	1.8	0.4
23 33 32.62	0.45	0.12	3 39 59.5	2.8	1.8	0.4
23 33 43.29	0.44	0.12	3 38 52.1	2.8	1.8	0.4
23 33 53.86	0.44	0.12	3 37 45.3	2.8	1.8	0.4
23 34 4.32	0.43	0.12	3 36 39.2	2.7	1.8	0.4
23 34 14.69	0.43	0.12	3 35 33.8	2.7	1.8	0.4
23 34 24.95	0.43	0.12	3 34 29.1	2.7	1.8	0.4
23 34 35.11	0.42	0.12	3 33 25.0	2.7	1.8	0.4
23 34 45.15	0.42	0.12	3 32 21.7	2.6	1.8	0.4
23 34 55.09	0.41	0.12	3 31 19.0	2.6	1.8	0.4
23 35 4.91	0.41	0.12	3 30 17.1	2.6	1.8	0.4
23 35 14.62	0.40	0.12	3 29 16.0	2.5	1.8	0.4
21	0.40	0.12	3 28 15.6	2.5	1.8	0.4
	0.39	0.12	3 27 16.1	2.5	1.8	0.4
	39	0.12	S. 3 26 17.4	+ 2.4	1.8	0.4

MAY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad
	Noon.	Noon.	Noon.		Noon.	Noon.	
	h m s	° ' "		h m	° ' "	° ' "	
1	23 35 34.88	S. 3 27 8.7	1.3171010	20 55.3	350 54 2.8	S. 0 46 5.4	1.30
2	23 35 44.25	3 26 9.9	.3168407	20 51.5	350 54 41.4	0 46 5.3	.34
3	23 35 53.50	3 25 11.9	.3165765	20 47.8	350 55 20.1	0 46 5.3	.34
4	23 36 2.62	3 24 14.7	.3163085	20 44.0	350 55 58.7	0 46 5.2	.34
5	23 36 11.62	3 23 18.3	.3160366	20 40.2	350 56 37.3	0 46 5.1	.34
6	23 36 20.49	3 22 22.8	.3157610	20 36.4	350 57 16.0	0 46 5.1	.34
7	23 36 29.24	3 21 28.1	.3154817	20 32.6	350 57 54.6	0 46 5.0	.34
8	23 36 37.85	3 20 34.3	.3151988	20 28.8	350 58 33.3	0 46 4.9	.34
9	23 36 46.33	3 19 41.4	.3149123	20 25.0	350 59 11.9	0 46 4.9	.34
10	23 36 54.68	3 18 49.3	.3146223	20 21.2	350 59 50.6	0 46 4.8	.34
11	23 37 2.90	3 17 58.1	.3143289	20 17.4	351 0 29.2	0 46 4.7	.34
12	23 37 10.98	3 17 7.8	.3140321	20 13.6	351 1 7.9	0 46 4.6	.34
13	23 37 18.92	3 16 18.5	.3137320	20 9.8	351 1 46.5	0 46 4.6	.34
14	23 37 26.72	3 15 30.0	.3134287	20 6.0	351 2 25.2	0 46 4.5	.34
15	23 37 34.38	3 14 42.5	.3131222	20 2.2	351 3 3.8	0 46 4.4	.34
16	23 37 41.89	3 13 56.0	.3128126	19 58.4	351 3 42.5	0 46 4.4	.34
17	23 37 49.26	3 13 10.4	.3125000	19 54.6	351 4 21.1	0 46 4.3	.34
18	23 37 56.47	3 12 25.8	.3121845	19 50.8	351 4 59.8	0 46 4.2	.34
19	23 38 3.54	3 11 42.2	.3118661	19 47.0	351 5 38.4	0 46 4.2	.34
20	23 38 10.46	3 10 59.6	.3115449	19 43.2	351 6 17.1	0 46 4.1	.34
21	23 38 17.23	3 10 17.9	.3112211	19 39.4	351 6 55.8	0 46 4.0	.34
22	23 38 23.84	3 9 37.3	.3108946	19 35.5	351 7 34.4	0 46 3.9	.34
23	23 38 30.30	3 8 57.7	.3105657	19 31.7	351 8 13.1	0 46 3.9	.34
24	23 38 36.60	3 8 19.1	.3102344	19 27.8	351 8 51.7	0 46 3.8	.34
25	23 38 42.75	3 7 41.6	.3099007	19 24.0	351 9 30.4	0 46 3.7	.34
26	23 38 48.74	3 7 5.1	.3095649	19 20.2	351 10 9.1	0 46 3.6	.34
27	23 38 54.56	3 6 29.6	.3092269	19 16.4	351 10 47.7	0 46 3.6	.34
28	23 39 0.23	3 5 55.2	.3088868	19 12.5	351 11 26.4	0 46 3.5	.34
29	23 39 5.73	3 5 21.9	.3085448	19 8.7	351 12 5.1	0 46 3.4	.34
30	23 39 11.08	3 4 49.6	.3082008	19 4.8	351 12 43.8	0 46 3.4	.34
31	23 39 16.25	3 4 18.4	.3078551	19 1.0	351 13 22.4	0 46 3.3	.34
32	23 39 21.26	S. 3 48.3	1.3075077	18 57.1	351 14 1.1	S. 0 46 3.2	

MAY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s	^s	^s	[°] ['] ["]	["]	["]	["]
23 35 43·05	+ 0·39	0·12	S. 3 26 17·4	+ 2·4	1·8	0·4
23 35 52·29	0·38	0·12	3 25 19·4	2·4	1·8	0·4
23 36 1·41	0·38	0·12	3 24 22·2	2·4	1·8	0·4
23 36 10·40	0·37	0·12	3 23 25·9	2·3	1·8	0·4
23 36 19·27	0·37	0·12	3 22 30·3	2·3	1·8	0·4
23 36 28·01	0·36	0·12	3 21 35·7	2·2	1·8	0·4
23 36 36·62	0·36	0·12	3 20 41·9	2·2	1·8	0·4
23 36 45·10	0·35	0·12	3 19 49·0	2·2	1·8	0·4
23 36 53·45	0·35	0·12	3 18 57·0	2·2	1·8	0·4
23 37 1·66	0·34	0·12	3 18 5·8	2·1	1·8	0·4
23 37 9·74	0·33	0·12	3 17 15·5	2·1	1·8	0·4
23 37 17·68	0·33	0·12	3 16 26·1	2·0	1·8	0·4
23 37 25·48	0·32	0·12	3 15 37·7	2·0	1·8	0·4
23 37 33·14	0·32	0·12	3 14 50·1	2·0	1·8	0·4
23 37 40·66	0·31	0·12	3 14 3·5	1·9	1·8	0·4
23 37 48·03	0·30	0·12	3 13 17·9	1·9	1·8	0·4
23 37 55·26	0·30	0·12	3 12 33·2	1·8	1·8	0·4
23 38 2·33	0·29	0·12	3 11 49·6	1·8	1·8	0·4
23 38 9·25	0·29	0·12	3 11 6·9	1·8	1·8	0·4
23 38 16·03	0·28	0·12	3 10 25·2	1·7	1·8	0·4
23 38 22·66	0·27	0·12	3 9 44·5	1·7	1·8	0·4
23 38 29·12	0·27	0·12	3 9 4·9	1·6	1·8	0·4
23 38 35·44	0·26	0·12	3 8 26·2	1·6	1·8	0·4
23 38 41·60	0·25	0·12	3 7 48·6	1·5	1·8	0·4
23 38 47·60	0·25	0·12	3 7 12·0	1·5	1·8	0·4
23 38 53·44	0·24	0·12	3 6 36·4	1·5	1·8	0·4
23 38 59·12	0·23	0·12	3 6 1·9	1·4	1·8	0·4
23 39 4·64	0·23	0·12	3 5 28·4	1·4	1·8	0·4
23 39 10·00	0·22	0·12	3 4 56·0	1·3	1·8	0·4
23 39 15·20	0·21	0·12	3 4 24·7	1·3	1·8	0·4
	0·21	0·12	3 3 54·4	1·2	1·8	0·4
			S. 3 3 25·2	+ 1·2	1·8	0·4

JUNE, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V	
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.	
	h m s	° ' "		h m	° ' "	° ' "		
1	23 39 21.26	S. 3 3 48.3	1.3075077	18 57.1	351 14 1.1	S. 0 46 3.2	1.3030	
2	23 39 26.11	3 3 19.3	.3071586	18 53.3	351 14 39.8	0 46 3.1	.3030	
3	23 39 30.79	3 2 51.3	.3068080	18 49.4	351 15 18.5	0 46 3.1	.3030	
4	23 39 35.30	3 2 24.4	.3064560	18 45.6	351 15 57.1	0 46 3.0	.3030	
5	23 39 39.64	3 1 58.6	.3061026	18 41.7	351 16 35.8	0 46 2.9	.3030	
6	23 39 43.82	3 1 34.0	.3057480	18 37.9	351 17 14.5	0 46 2.8	.3030	
7	23 39 47.82	3 1 10.4	.3053921	18 34.0	351 17 53.2	0 46 2.8	.3030	
8	23 39 51.66	3 0 47.9	.3050352	18 30.1	351 18 31.8	0 46 2.7	.3030	
9	23 39 55.32	3 0 26.6	.3046773	18 26.2	351 19 10.5	0 46 2.6	.3030	
10	23 39 58.81	3 0 6.4	.3043184	18 22.4	351 19 49.2	0 46 2.6	.3030	
11	23 40 2.13	2 59 47.3	.3039587	18 18.5	351 20 27.9	0 46 2.5	.3030	
12	23 40 5.27	2 59 29.4	.3035982	18 14.6	351 21 6.6	0 46 2.4	.3030	
13	23 40 8.24	2 59 12.6	.3032370	18 10.7	351 21 45.2	0 46 2.3	.3030	
14	23 40 11.04	2 58 56.9	.3028754	18 6.8	351 22 23.9	0 46 2.3	.3030	
15	23 40 13.66	2 58 42.4	.3025132	18 2.9	351 23 2.6	0 46 2.2	.3030	
16	23 40 16.10	2 58 29.0	.3021507	17 59.0	351 23 41.3	0 46 2.1	.3030	
17	23 40 18.37	2 58 16.8	.3017880	17 55.1	351 24 20.0	0 46 2.0	.3030	
18	23 40 20.45	2 58 5.7	.3014251	17 51.2	351 24 58.7	0 46 2.0	.3030	
19	23 40 22.36	2 57 55.8	.3010622	17 47.3	351 25 37.3	0 46 1.9	.3030	
20	23 40 24.09	2 57 47.0	.3006994	17 43.4	351 26 16.0	0 46 1.8	.3030	
21	23 40 25.64	2 57 39.4	.3003367	17 39.5	351 26 54.7	0 46 1.7	.3030	
22	23 40 27.01	2 57 33.0	.2999744	17 35.6	351 27 33.4	0 46 1.7	.3030	
23	23 40 28.20	2 57 27.7	.2996125	17 31.7	351 28 12.1	0 46 1.6	.3030	
24	23 40 29.22	2 57 23.6	.2992512	17 27.8	351 28 50.8	0 46 1.5	.3030	
25	23 40 30.05	2 57 20.6	.2988904	17 23.8	351 29 29.5	0 46 1.5	.3030	
26	23 40 30.71	2 57 18.8	.2985304	17 19.9	351 30 8.1	0 46 1.4	.3030	
27	23 40 31.18	2 57 18.2	.2981713	17 16.0	351 30 46.8	0 46 1.3	.3030	
28	23 40 31.48	2 57 18.7	.2978131	17 12.1	351 31 25.5	0 46 1.2	.3030	
29	23 40 31.60	2 57 20.4	.2974559	17 8.1	351 32 4.2	0 46 1.2	.3030	
30	23 40 31.54	2 57 23.2	.2970999	17 4.2	351 32 42.9	0 46 1.1	.	
31	23 40 31.31	S. 2 57 27.1	1.2967451	17 0.2	351 33 21.6	S. 0 46 1.0	1.3030	

JUNE, 1841.

At Transit over the Meridian of Greenwich.

Month.	Apparent Right Ascension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
	^h ^m ^s	^s	^s	^o ['] ["]	["]	["]	["]
1	23 39 25 ¹⁰	+ 0 ²⁰	0 ¹²	S. 3 3 25 ²	+ 1 ²	1 ⁸	0 ⁴
2	23 39 29 ⁸⁰	0 ¹⁹	0 ¹²	3 2 57 ²	1 ¹	1 ⁸	0 ⁴
3	23 39 34 ³⁴	0 ¹⁸	0 ¹²	3 2 30 ¹	1 ¹	1 ⁸	0 ⁴
4	23 39 38 ⁷⁰	0 ¹⁸	0 ¹²	3 2 4 ¹	1 ¹	1 ⁸	0 ⁴
5	23 39 42 ⁹⁰	0 ¹⁷	0 ¹²	3 1 39 ³	1 ⁰	1 ⁸	0 ⁴
6	23 39 46 ⁹⁴	0 ¹⁶	0 ¹²	3 1 15 ⁶	1 ⁰	1 ⁸	0 ⁴
7	23 39 50 ⁸⁰	0 ¹⁶	0 ¹²	3 0 52 ⁹	0 ⁹	1 ⁸	0 ⁴
8	23 39 54 ⁵⁰	0 ¹⁵	0 ¹²	3 0 31 ⁴	0 ⁹	1 ⁸	0 ⁴
9	23 39 58 ⁰²	0 ¹⁴	0 ¹²	3 0 11 ⁰	0 ⁸	1 ⁸	0 ⁴
	23 40 1 ³⁶	0 ¹⁴	0 ¹²	2 59 51 ⁷	0 ⁸	1 ⁸	0 ⁴
	23 40 4 ⁵⁴	0 ¹³	0 ¹³	2 59 33 ⁵	0 ⁷	1 ⁹	0 ⁴
	23 40 7 ⁵⁴	0 ¹²	0 ¹³	2 59 16 ⁵	0 ⁷	1 ⁹	0 ⁴
	23 40 10 ³⁷	0 ¹¹	0 ¹³	2 59 0 ⁶	0 ⁶	1 ⁹	0 ⁴
	23 40 13 ⁰³	0 ¹¹	0 ¹³	2 58 45 ⁸	0 ⁶	1 ⁹	0 ⁴
	23 40 15 ⁵¹	0 ¹⁰	0 ¹³	2 58 32 ²	0 ⁵	1 ⁹	0 ⁴
	23 40 17 ⁸¹	0 ⁰⁹	0 ¹³	2 58 19 ⁷	0 ⁵	1 ⁹	0 ⁴
	23 40 19 ⁹⁴	0 ⁰⁹	0 ¹³	2 58 8 ⁴	0 ⁴	1 ⁹	0 ⁴
	23 40 21 ⁸⁹	0 ⁰⁸	0 ¹³	2 57 58 ²	0 ⁴	1 ⁹	0 ⁴
	23 40 23 ⁶⁶	0 ⁰⁷	0 ¹³	2 57 49 ²	0 ⁴	1 ⁹	0 ⁴
	23 40 25 ²⁵	0 ⁰⁶	0 ¹³	2 57 41 ³	0 ³	1 ⁹	0 ⁴
	23 40 26 ⁶⁷	0 ⁰⁶	0 ¹³	2 57 34 ⁶	0 ³	1 ⁹	0 ⁴
20	23 40 27 ⁹⁰	0 ⁰⁵	0 ¹³	2 57 29 ¹	0 ²	1 ⁹	0 ⁴
21	23 40 28 ⁹⁶	0 ⁰⁴	0 ¹³	2 57 24 ⁷	0 ²	1 ⁹	0 ⁴
22	23 40 29 ⁸⁵	0 ⁰³	0 ¹³	2 57 21 ⁴	0 ¹	1 ⁹	0 ⁴
23	23 40 30 ⁵⁵	0 ⁰³	0 ¹³	2 57 19 ³	+ 0 ¹	1 ⁹	0 ⁴
24	23 40 31 ⁰⁸	0 ⁰²	0 ¹³	2 57 18 ³	0 ⁰	1 ⁹	0 ⁴
25	23 40 31 ⁴²	+ 0 ⁰¹	0 ¹³	2 57 18 ⁵	0 ⁰	1 ⁹	0 ⁴
26	23 40 31 ⁵⁰	0 ⁰⁰	0 ¹³	2 57 19 ⁸	- 0 ¹	1 ⁹	0 ⁴
27	23		0 ¹³	2 57 22 ³	0 ¹	1 ⁹	0 ⁴
28	23		0 ¹³	2 57 25 ⁹	0 ²	1 ⁹	0 ⁴
29	23 40			2 57 30 ⁶	- 0 ²	1 ⁹	0 ⁴

JULY, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Lo Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	N
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	23 40 31.31	S. 2 57 27.1	1.2967451	17 0.2	351 33 21.6	S. 0 46 1.0	1.30
2	23 40 30.90	2 57 32.2	.2963917	16 56.3	351 34 0.2	0 46 0.9	.30
3	23 40 30.32	2 57 38.4	.2960397	16 52.4	351 34 38.9	0 46 0.9	.30
4	23 40 29.56	2 57 45.7	.2956892	16 48.5	351 35 17.6	0 46 0.8	.30
5	23 40 28.63	2 57 54.1	.2953403	16 44.5	351 35 56.3	0 46 0.7	.30
6	23 40 27.52	2 58 3.6	.2949931	16 40.6	351 36 35.0	0 46 0.6	.30
7	23 40 26.23	2 58 14.3	.2946478	16 36.6	351 37 13.7	0 46 0.6	.30
8	23 40 24.77	2 58 26.0	.2943044	16 32.6	351 37 52.3	0 46 0.5	.30
9	23 40 23.14	2 58 38.9	.2939630	16 28.6	351 38 31.0	0 46 0.4	.30
10	23 40 21.34	2 58 52.9	.2936238	16 24.7	351 39 9.7	0 46 0.3	.30
11	23 40 19.36	2 59 8.0	.2932867	16 20.7	351 39 48.4	0 46 0.3	.30
12	23 40 17.21	2 59 24.2	.2929521	16 16.8	351 40 27.0	0 46 0.2	.30
13	23 40 14.89	2 59 41.5	.2926199	16 12.8	351 41 5.7	0 46 0.1	.30
14	23 40 12.40	2 59 59.8	.2922902	16 8.8	351 41 44.4	0 46 0.0	.30
15	23 40 9.75	3 0 19.3	.2919632	16 4.8	351 42 23.1	0 46 0.0	.30
16	23 40 6.92	3 0 39.8	.2916390	16 0.8	351 43 1.7	0 45 59.9	.30
17	23 40 3.93	3 1 1.4	.2913176	15 56.8	351 43 40.4	0 45 59.8	.30
18	23 40 0.76	3 1 24.1	.2909993	15 52.9	351 44 19.1	0 45 59.7	.30
19	23 39 57.44	3 1 47.7	.2906841	15 48.9	351 44 57.8	0 45 59.7	.30
20	23 39 53.95	3 2 12.5	.2903720	15 44.9	351 45 36.4	0 45 59.6	.30
21	23 39 50.30	3 2 38.2	.2900633	15 40.9	351 46 15.1	0 45 59.5	.30
22	23 39 46.49	3 3 5.0	.2897581	15 36.9	351 46 53.8	0 45 59.4	.30
23	23 39 42.52	3 3 32.7	.2894564	15 32.9	351 47 32.4	0 45 59.3	.30
24	23 39 38.40	3 4 1.5	.2891584	15 28.9	351 48 11.1	0 45 59.3	.30
25	23 39 34.12	3 4 31.2	.2888642	15 24.9	351 48 49.8	0 45 59.2	.30
26	23 39 29.68	3 5 1.9	.2885738	15 20.9	351 49 28.4	0 45 59.1	.30
27	23 39 25.10	3 5 33.5	.2882873	15 16.9	351 50 7.1	0 45 59.0	.30
28	23 39 20.37	3 6 6.1	.2880048	15 12.9	351 50 45.7	0 45 59.0	.30
29	23 39 15.49	3 6 39.6	.2877264	15 8.9	351 51 24.4	0 45 58.9	.30
30	23 39 10.46	3 7 14.0	.2874522	15 4.9	351 52 3.1	0 45 58.8	.30
31	23 39 5.29	3 7 49.3	.2871823	15 0.8	351 52 41.7	0 45 58.7	.30
32	23 38 59.97	S. 3 8 25.5	1.2869167	14 56.8	351 53 20.4	S. 0 45 58.7	1

JULY, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 3 40 31 [.] 04	^s — 0 [.] 02	^s 0 [.] 13	[°] ['] ["] S. 2 57 30 [.] 6	["] — 0 [.] 2	["] 1 [.] 9	["] 0 [.] 4
3 40 30 [.] 51	0 [.] 03	0 [.] 13	2 57 36 [.] 4	0 [.] 3	1 [.] 9	0 [.] 4
3 40 29 [.] 81	0 [.] 03	0 [.] 13	2 57 43 [.] 4	0 [.] 3	1 [.] 9	0 [.] 4
3 40 28 [.] 93	0 [.] 04	0 [.] 13	2 57 51 [.] 5	0 [.] 4	1 [.] 9	0 [.] 4
3 40 27 [.] 88	0 [.] 05	0 [.] 13	2 58 0 [.] 6	0 [.] 4	1 [.] 9	0 [.] 4
3 40 26 [.] 65	0 [.] 06	0 [.] 13	2 58 10 [.] 9	0 [.] 5	1 [.] 9	0 [.] 4
3 40 25 [.] 24	0 [.] 06	0 [.] 13	2 58 22 [.] 3	0 [.] 5	1 [.] 9	0 [.] 4
3 40 23 [.] 66	0 [.] 07	0 [.] 13	2 58 34 [.] 8	0 [.] 5	1 [.] 9	0 [.] 4
3 40 21 [.] 92	0 [.] 08	0 [.] 13	2 58 48 [.] 4	0 [.] 6	1 [.] 9	0 [.] 4
3 40 20 [.] 00	0 [.] 08	0 [.] 13	2 59 3 [.] 1	0 [.] 6	1 [.] 9	0 [.] 4
3 40 17 [.] 91	0 [.] 09	0 [.] 13	2 59 18 [.] 9	0 [.] 7	1 [.] 9	0 [.] 4
3 40 15 [.] 65	0 [.] 10	0 [.] 13	2 59 35 [.] 8	0 [.] 7	1 [.] 9	0 [.] 4
3 40 13 [.] 22	0 [.] 10	0 [.] 13	2 59 53 [.] 8	0 [.] 8	1 [.] 9	0 [.] 4
3 40 10 [.] 62	0 [.] 11	0 [.] 13	3 0 12 [.] 8	0 [.] 8	1 [.] 9	0 [.] 4
3 40 7 [.] 87	0 [.] 12	0 [.] 13	3 0 32 [.] 9	0 [.] 9	1 [.] 9	0 [.] 4
3 40 4 [.] 94	0 [.] 13	0 [.] 13	3 0 54 [.] 0	0 [.] 9	1 [.] 9	0 [.] 4
3 40 1 [.] 85	0 [.] 13	0 [.] 13	3 1 16 [.] 3	1 [.] 0	1 [.] 9	0 [.] 4
3 39 58 [.] 58	0 [.] 14	0 [.] 13	3 1 39 [.] 6	1 [.] 0	1 [.] 9	0 [.] 4
3 39 55 [.] 16	0 [.] 15	0 [.] 13	3 2 3 [.] 9	1 [.] 0	1 [.] 9	0 [.] 4
3 39 51 [.] 57	0 [.] 15	0 [.] 13	3 2 29 [.] 3	1 [.] 1	1 [.] 9	0 [.] 4
3 39 47 [.] 83	0 [.] 16	0 [.] 13	3 2 55 [.] 6	1 [.] 1	1 [.] 9	0 [.] 4
3 39 43 [.] 93	0 [.] 17	0 [.] 13	3 3 23 [.] 0	1 [.] 2	1 [.] 9	0 [.] 4
3 39 39 [.] 87	0 [.] 17	0 [.] 13	3 3 51 [.] 3	1 [.] 2	1 [.] 9	0 [.] 4
3 39 35 [.] 66	0 [.] 18	0 [.] 13	3 4 20 [.] 6	1 [.] 2	1 [.] 9	0 [.] 4
3 39 31 [.] 29	0 [.] 19	0 [.] 13	3 4 50 [.] 8	1 [.] 3	1 [.] 9	0 [.] 4
3 39 26 [.] 77	0 [.] 19	0 [.] 13	3 5 22 [.] 1	1 [.] 3	1 [.] 9	0 [.] 4
3 39 22 [.] 11	0 [.] 20	0 [.] 13	3 5 54 [.] 2	1 [.] 4	1 [.] 9	0 [.] 4
3 39 17 [.] 30	0 [.] 20	0 [.] 13	3 6 27 [.] 3	1 [.] 4	1 [.] 9	0 [.] 4
3 39 12 [.] 34	0 [.] 21	0 [.] 13	3 7 1 [.] 2	1 [.] 4	1 [.] 9	0 [.] 4
3 39 7 [.] 23	0 [.] 22	0 [.] 13	3 7 36 [.] 1	1 [.] 5	1 [.] 9	0 [.] 4
3	^s 0 [.] 13	0 [.] 13	3 8 11 [.] 8	1 [.] 5	1 [.] 9	0 [.] 4
		3	S. 3 8 48 [.] 5	— 1 [.] 5	1 [.] 9	0 [.] 4

AUGUST, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	23 38 59.97	S. 3 8 25.5	1.2869167	14 56.8	351 53 20.4	S. 0 45 58.7	1.3030
2	23 38 54.52	3 9 2.6	.2866556	14 52.8	351 53 59.0	0 45 58.6	.3030
3	23 38 48.93	3 9 40.5	.2863990	14 48.8	351 54 37.7	0 45 58.5	.3030
4	23 38 43.21	3 10 19.2	.2861470	14 44.7	351 55 16.3	0 45 58.4	.3030
5	23 38 37.35	3 10 58.8	.2858997	14 40.7	351 55 55.0	0 45 58.4	.3030
6	23 38 31.37	3 11 39.2	.2856572	14 36.7	351 56 33.6	0 45 58.3	.3030
7	23 38 25.25	3 12 20.3	.2854196	14 32.7	351 57 12.3	0 45 58.2	.3030
8	23 38 19.00	3 13 2.3	.2851869	14 28.6	351 57 50.9	0 45 58.1	.3030
9	23 38 12.63	3 13 45.0	.2849593	14 24.6	351 58 29.6	0 45 58.0	.3030
10	23 38 6.13	3 14 28.5	.2847369	14 20.5	351 59 8.2	0 45 58.0	.3030
11	23 37 59.52	3 15 12.7	.2845197	14 16.5	351 59 46.9	0 45 57.9	.3030
12	23 37 52.79	3 15 57.7	.2843078	14 12.4	352 0 25.5	0 45 57.8	.3030
13	23 37 45.94	3 16 43.3	.2841014	14 8.4	352 1 4.2	0 45 57.7	.3030
14	23 37 38.98	3 17 29.7	.2839004	14 4.3	352 1 42.8	0 45 57.6	.3030
15	23 37 31.91	3 18 16.7	.2837050	14 0.3	352 2 21.5	0 45 57.6	.3030
16	23 37 24.74	3 19 4.4	.2835152	13 56.2	352 3 0.1	0 45 57.5	.3030
17	23 37 17.46	3 19 52.8	.2833311	13 52.2	352 3 38.7	0 45 57.4	.3030
18	23 37 10.08	3 20 41.7	.2831528	13 48.1	352 4 17.4	0 45 57.3	.3030
19	23 37 2.60	3 21 31.2	.2829804	13 44.1	352 4 56.0	0 45 57.3	.3030
20	23 36 55.03	3 22 21.3	.2828139	13 40.0	352 5 34.6	0 45 57.2	.3030
21	23 36 47.37	3 23 11.9	.2826534	13 36.0	352 6 13.3	0 45 57.1	.3030
22	23 36 39.61	3 24 3.0	.2824989	13 31.9	352 6 51.9	0 45 57.0	.3030
23	23 36 31.78	3 24 54.6	.2823506	13 27.8	352 7 30.5	0 45 56.9	.3030
24	23 36 23.86	3 25 46.7	.2822084	13 23.7	352 8 9.2	0 45 56.9	.3030
25	23 36 15.86	3 26 39.2	.2820725	13 19.7	352 8 47.8	0 45 56.8	.3030
26	23 36 7.79	3 27 32.2	.2819428	13 15.6	352 9 26.4	0 45 56.7	.3030
27	23 35 59.65	3 28 25.6	.2818194	13 11.6	352 10 5.0	0 45 56.6	.3030
28	23 35 51.44	3 29 19.3	.2817023	13 7.5	352 10 43.7	0 45 56.5	.3030
29	23 35 43.17	3 30 13.4	.2815917	13 3.5	352 11 22.3	0 45 56.5	.3030
30	23 35 34.83	3 31 7.8	.2814875	12 59.4	352 12 0.9	0 45 56.4	.3030
31	23 35 26.44	3 32 2.6	.2813897	12 55.3	352 12 39.5	0 45 56.3	.3030
32	23 35 17.99	S. 3 32 57.7	1.2812985	12 51.2	352 13 18.2	S. 0 45 56.2	1.3030

AUGUST, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^h ^m ^s 23 38 56.59	^s — 0.23	^s 0.13	[°] ['] ["] S. 3 8 48.5	["] — 1.5	["] 1.9	["] 0.4
23 38 51.07	0.23	0.13	3 9 26.0	1.6	1.9	0.4
23 38 45.41	0.24	0.13	3 10 4.3	1.6	1.9	0.4
23 38 39.63	0.24	0.13	3 10 43.4	1.6	1.9	0.4
23 38 33.71	0.25	0.13	3 11 23.4	1.7	1.9	0.4
23 38 27.67	0.25	0.13	3 12 4.2	1.7	1.9	0.4
23 38 21.49	0.26	0.13	3 12 45.7	1.7	1.9	0.4
23 38 15.18	0.27	0.13	3 13 28.0	1.8	1.9	0.4
23 38 8.75	0.27	0.13	3 14 11.0	1.8	1.9	0.4
23 38 2.19	0.28	0.13	3 14 54.8	1.8	1.9	0.4
23 37 55.53	0.28	0.13	3 15 39.3	1.9	1.9	0.4
23 37 48.75	0.29	0.13	3 16 24.6	1.9	1.9	0.4
23 37 41.85	0.29	0.13	3 17 10.5	1.9	1.9	0.4
23 37 34.84	0.29	0.13	3 17 57.2	2.0	1.9	0.4
23 37 27.73	0.30	0.13	3 18 44.4	2.0	1.9	0.4
23 37 20.52	0.30	0.13	3 19 32.4	2.0	1.9	0.4
23 37 13.21	0.31	0.13	3 20 21.0	2.0	1.9	0.4
23 37 5.79	0.31	0.13	3 21 10.1	2.1	1.9	0.4
23 36 58.28	0.31	0.13	3 21 59.7	2.1	1.9	0.4
23 36 50.68	0.32	0.13	3 22 50.0	2.1	1.9	0.4
23 36 42.99	0.32	0.13	3 23 40.8	2.1	1.9	0.4
23 36 35.21	0.32	0.13	3 24 32.0	2.1	1.9	0.4
23 36 27.35	0.33	0.13	3 25 23.8	2.2	1.9	0.4
23 36 19.41	0.33	0.13	3 26 16.0	2.2	1.9	0.4
23 36 11.39	0.34	0.13	3 27 8.6	2.2	1.9	0.4
23 36 3.30	0.34	0.13	3 28 1.7	2.2	1.9	0.4
23 35 55.15	0.34	0.13	3 28 55.1	2.2	1.9	0.4
23 35 46.93	0.34	0.13	3 29 48.9	2.2	1.9	0.4
23 35 38.65	0.35	0.13	3 30 43.0	2.3	1.9	0.4
23 35 30.31	0.35	0.13	3 31 37.4	2.3	1.9	0.4
23 35 21.91	0.35	0.13	3 32 32.5	2.3	1.9	0.4
23 35 13.45	— 0.35	0.13	S. 3 33 27.4	— 2.3	1.9	0.4

SEPTEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.			
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log Rad.	
	Noon.	Noon.	Noon.		Noon.	Noon.	No	
	h m s	° ' "		h m	° ' "	° ' "		
1	23 35 17.99	S. 3 32 57.7	1.2812985	12 51.2	352 13 18.2	S. 0 45 56.2	1.303	
2	23 35 9.49	3 33 53.1	.2812138	12 47.2	352 13 56.8	0 45 56.1	.303	
3	23 35 0.94	3 34 48.7	.2811357	12 43.1	352 14 35.4	0 45 56.0	.303	
4	23 34 52.34	3 35 44.6	.2810641	12 39.0	352 15 14.0	0 45 56.0	.303	
5	23 34 43.70	3 36 40.7	.2809993	12 34.9	352 15 52.6	0 45 55.9	.303	
6	23 34 35.02	3 37 37.0	.2809411	12 30.9	352 16 31.3	0 45 55.8	.303	
7	23 34 26.31	3 38 33.5	.2808896	12 26.8	352 17 9.9	0 45 55.7	.303	
8	23 34 17.56	3 39 30.2	.2808448	12 22.7	352 17 48.5	0 45 55.6	.303	
9	23 34 8.79	3 40 26.9	.2808068	12 18.6	352 18 27.1	0 45 55.6	.303	
10	23 33 59.99	3 41 23.8	.2807756	12 14.5	352 19 5.7	0 45 55.5	.303	
11	23 33 51.17	3 42 20.8	.2807512	12 10.4	352 19 44.3	0 45 55.4	.303	
12	23 33 42.33	3 43 17.8	.2807337	12 6.4	352 20 22.9	0 45 55.3	.303	
13	23 33 33.48	3 44 14.9	.2807230	12 2.3	352 21 1.5	0 45 55.2	.303	
14	23 33 24.62	3 45 11.9	.2807193	11 58.2	352 21 40.2	0 45 55.1	.303	
15	23 33 15.76	3 46 9.0	.2807225	11 54.1	352 22 18.8	0 45 55.1	.303	
16	23 33 6.89	3 47 5.9	.2807326	11 50.1	352 22 57.4	0 45 55.0	.303	
17	23 32 58.03	3 48 2.8	.2807496	11 46.0	352 23 36.0	0 45 54.9	.303	
18	23 32 49.17	3 48 59.6	.2807735	11 41.9	352 24 14.6	0 45 54.8	.303	
19	23 32 40.33	3 49 56.3	.2808044	11 37.8	352 24 53.2	0 45 54.7	.303	
20	23 32 31.50	3 50 52.8	.2808420	11 33.8	352 25 31.8	0 45 54.7	.303	
21	23 32 22.69	3 51 49.2	.2808865	11 29.7	352 26 10.4	0 45 54.6	.303	
22	23 32 13.90	3 52 45.3	.2809378	11 25.6	352 26 49.0	0 45 54.5	.303	
23	23 32 5.13	3 53 41.2	.2809959	11 21.5	352 27 27.6	0 45 54.4	.303	
24	23 31 56.40	3 54 36.9	.2810609	11 17.5	352 28 6.2	0 45 54.3	.303	
25	23 31 47.69	3 55 32.3	.2811326	11 13.4	352 28 44.8	0 45 54.2	.303	
26	23 31 39.03	3 56 27.4	.2812111	11 9.3	352 29 23.5	0 45 54.2	.303	
27	23 31 30.40	3 57 22.2	.2812962	11 5.2	352 30 2.1	0 45 54.1	.303	
28	23 31 21.82	3 58 16.7	.2813881	11 1.2	352 30 40.7	0 45 54.0	.303	
29	23 31 13.29	3 59 10.8	.2814866	10 57.1	352 31 19.3	0 45 53.9	.303	
30	23 31 4.80	4 0 4.5	.2815918	10 53.0	352 31 57.9	0 45 53.8	.303	
31	23 30 56.37	S. 4 0 57.8	1.2817036	10 48.9	352 32 36.5	S. 0 45 53.7	1.303	

SEPTEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
^m ^s 35 13 '45	— 0 '35	^s 0 '13	^o ['] ["] S. 3 33 27 '4	["] — 2 '3	["] 1 '9	["] 0 '4
35 4 '95	0 '36	0 '13	3 34 22 '8	2 '3	1 '9	0 '4
34 56 '40	0 '36	0 '13	3 35 18 '3	2 '3	1 '9	0 '4
34 47 '80	0 '36	0 '14	3 36 14 '2	2 '3	2 '0	0 '4
34 39 '16	0 '36	0 '14	3 37 10 '2	2 '3	2 '0	0 '4
34 30 '48	0 '36	0 '14	3 38 6 '5	2 '3	2 '0	0 '4
34 21 '77	0 '36	0 '14	3 39 2 '9	2 '4	2 '0	0 '4
34 13 '03	0 '36	0 '14	3 39 59 '5	2 '4	2 '0	0 '4
34 4 '27	0 '37	0 '14	3 40 56 '1	2 '4	2 '0	0 '4
33 55 '49	0 '37	0 '14	3 41 52 '9	2 '4	2 '0	0 '4
33 46 '69	0 '37	0 '14	3 42 49 '7	2 '4	2 '0	0 '4
33 37 '87	0 '37	0 '14	3 43 46 '6	2 '4	2 '0	0 '4
33 29 '04	0 '37	0 '14	3 44 43 '5	2 '4	2 '0	0 '4
33 20 '20	0 '37	0 '14	3 45 40 '3	2 '4	2 '0	0 '4
33 11 '36	0 '37	0 '14	3 46 37 '2	2 '4	2 '0	0 '4
33 2 '52	0 '37	0 '14	3 47 33 '9	2 '4	2 '0	0 '4
32 53 '69	0 '37	0 '14	3 48 30 '6	2 '4	2 '0	0 '4
32 44 '86	0 '37	0 '14	3 49 27 '2	2 '4	2 '0	0 '4
32 36 '05	0 '37	0 '14	3 50 23 '7	2 '4	2 '0	0 '4
32 27 '25	0 '37	0 '14	3 51 20 '0	2 '3	2 '0	0 '4
32 18 '48	0 '37	0 '14	3 52 16 '1	2 '3	2 '0	0 '4
32 9 '73	0 '36	0 '14	3 53 11 '9	2 '3	2 '0	0 '4
32 1 '00	0 '36	0 '14	3 54 7 '5	2 '3	2 '0	0 '4
31 52 '31	0 '36	0 '14	3 55 3 '0	2 '3	2 '0	0 '4
31 43 '64	0 '36	0 '13	3 55 58 '1	2 '3	1 '9	0 '4
31 35 '02	0 '36	0 '13	3 56 52 '9	2 '3	1 '9	0 '4
31 26 '13	0 '36	0 '13	3 57 47 '3	2 '3	1 '9	0 '4
31 17 '90	0 '35	0 '13	3 58 41 '5	2 '3	1 '9	0 '4
31 9 '41	0 '35	0 '13	3 59 35 '3	2 '2	1 '9	0 '4
31 0 '97	0 '35	0 '13	4 0 28 '6	2 '2	1 '9	0 '4
30 52 '59	— 0 '35	0 '13	S. 4 1 21 '6	— 2 '2	1 '9	0 '4

OCTOBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	Log. Rad. V
	Noon.	Noon.	Noon.		Noon.	Noon.	Noon.
1	^h 23 ^m 30 ^s 56.37	[°] S. 4 ['] 0 ["] 57.8	1.2817036	^h 10 ^m 48.9	[°] 352 32 36.5	[°] S. 0 45 53.7	1.3034
2	23 30 48.00	4 1 50.7	.2818219	10 44.8	352 33 15.1	0 45 53.7	.3034
3	23 30 39.69	4 2 43.2	.2819467	10 40.8	352 33 53.7	0 45 53.6	.3034
4	23 30 31.44	4 3 35.2	.2820779	10 36.7	352 34 32.4	0 45 53.5	.3034
5	23 30 23.26	4 4 26.7	.2822156	10 32.7	352 35 11.0	0 45 53.4	.3034
6	23 30 15.15	4 5 17.7	.2823598	10 28.6	352 35 49.6	0 45 53.3	.3034
7	23 30 7.11	4 6 8.2	.2825102	10 24.5	352 36 28.2	0 45 53.2	.3034
8	23 29 59.15	4 6 58.1	.2826670	10 20.4	352 37 6.8	0 45 53.2	.3034
9	23 29 51.28	4 7 47.5	.2828301	10 16.4	352 37 45.4	0 45 53.1	.3034
10	23 29 43.49	4 8 36.2	.2829993	10 12.3	352 38 24.1	0 45 53.0	.3034
11	23 29 35.79	4 9 24.4	.2831748	10 8.3	352 39 2.7	0 45 52.9	.3034
12	23 29 28.19	4 10 11.9	.2833564	10 4.2	352 39 41.3	0 45 52.8	.3034
13	23 29 20.67	4 10 58.7	.2835440	10 0.2	352 40 19.9	0 45 52.7	.3034
14	23 29 13.26	4 11 44.8	.2837376	9 56.1	352 40 58.5	0 45 52.6	.3034
15	23 29 5.95	4 12 30.3	.2839371	9 52.1	352 41 37.2	0 45 52.6	.3034
16	23 28 58.75	4 13 15.0	.2841424	9 48.0	352 42 15.8	0 45 52.5	.3029
17	23 28 51.65	4 13 58.9	.2843536	9 44.0	352 42 54.4	0 45 52.4	.3029
18	23 28 44.67	4 14 42.1	.2845704	9 39.9	352 43 33.1	0 45 52.3	.3029
19	23 28 37.80	4 15 24.5	.2847929	9 35.9	352 44 11.7	0 45 52.2	.3029
20	23 28 31.05	4 16 6.1	.2850209	9 31.8	352 44 50.3	0 45 52.1	.3029
21	23 28 24.42	4 16 46.9	.2852543	9 27.8	352 45 29.0	0 45 52.1	.3029
22	23 28 17.92	4 17 26.8	.2854931	9 23.7	352 46 7.6	0 45 52.0	.3029
23	23 28 11.55	4 18 5.9	.2857372	9 19.7	352 46 46.2	0 45 51.9	.3029
24	23 28 5.30	4 18 44.1	.2859864	9 15.6	352 47 24.9	0 45 51.8	.3029
25	23 27 59.19	4 19 21.4	.2862408	9 11.6	352 48 3.5	0 45 51.7	.3029
26	23 27 53.22	4 19 57.8	.2865000	9 7.6	352 48 42.1	0 45 51.6	.3029
27	23 27 47.38	4 20 33.2	.2867642	9 3.6	352 49 20.8	0 45 51.5	.3029
28	23 27 41.68	4 21 7.7	.2870331	8 59.5	352 49 59.4	0 45 51.5	.3029
29	23 27 36.13	4 21 41.3	.2873067	8 55.5	352 50 38.1	0 45 51.4	.3029
30	23 27 30.72	4 22 13.9	.2875849	8 51.5	352 51 16.7	0 45 51.3	.3029
31	23 27 25.45	4 22 45.5	.2878676	8 47.5	352 51 55.4	0 45 51.2	.3029
32	23 27 20.33	S. 4 23 16.2	1.2881548	8 43.5	352 52 34.0	S. 0 45 51.1	1.3029

OCTOBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ′ ″</i>	<i>″</i>	<i>″</i>	<i>″</i>
23 30 52.59	— 0.35	0.13	S. 4 1 21.6	— 2.2	1.9	0.4
23 30 44.27	0.35	0.13	4 2 14.2	2.2	1.9	0.4
23 30 36.01	0.34	0.13	4 3 6.3	2.2	1.9	0.4
23 30 27.82	0.34	0.13	4 3 58.0	2.1	1.9	0.4
23 30 19.69	0.34	0.13	4 4 49.1	2.1	1.9	0.4
23 30 11.63	0.33	0.13	4 5 39.8	2.1	1.9	0.4
23 30 3.65	0.33	0.13	4 6 29.9	2.1	1.9	0.4
23 29 55.75	0.33	0.13	4 7 19.4	2.1	1.9	0.4
23 29 47.94	0.32	0.13	4 8 8.4	2.0	1.9	0.4
23 29 40.21	0.32	0.13	4 8 56.7	2.0	1.9	0.4
23 29 32.57	0.32	0.13	4 9 44.5	2.0	1.9	0.4
23 29 25.03	0.31	0.13	4 10 31.6	1.9	1.9	0.4
23 29 17.57	0.31	0.13	4 11 18.0	1.9	1.9	0.4
23 29 10.22	0.30	0.13	4 12 3.7	1.9	1.9	0.4
23 29 2.97	0.30	0.13	4 12 48.7	1.9	1.9	0.4
23 28 55.84	0.30	0.13	4 13 33.0	1.8	1.9	0.4
23 28 48.81	0.29	0.13	4 14 16.5	1.8	1.9	0.4
23 28 41.89	0.29	0.13	4 14 59.2	1.8	1.9	0.4
23 28 35.09	0.28	0.13	4 15 41.2	1.7	1.9	0.4
23 28 28.40	0.28	0.13	4 16 22.4	1.7	1.9	0.4
23 28 21.84	0.27	0.13	4 17 2.7	1.7	1.9	0.4
23 28 15.41	0.27	0.13	4 17 42.2	1.6	1.9	0.4
23 28 9.10	0.26	0.13	4 18 20.8	1.6	1.9	0.4
23 28 2.92	0.25	0.13	4 18 58.6	1.6	1.9	0.4
23 27 56.88	0.25	0.13	4 19 35.4	1.5	1.9	0.4
23 27 50.97	0.24	0.13	4 20 11.4	1.5	1.9	0.4
23 27 45.20	0.24	0.13	4 20 46.3	1.4	1.9	0.4
23 27 39.57	0.23	0.13	4 21 20.4	1.4	1.9	0.4
23 27		0.13	4 21 53.6	1.4	1.9	0.4
23		13	4 22 25.7	1.3	1.9	0.4
23			4 22 56.9	1.3	1.9	0.4
23			4 23 27.1	— 1.2	1.9	0.4

NOVEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	<i>Apparent Right Ascension.</i>	<i>Apparent Declination.</i>	<i>Log. of True Dist. from the Earth.</i>	<i>Meridian Passage.</i>	<i>Longitude.</i>	<i>Latitude.</i>	<i>R.</i>
	<i>Noon.</i>	<i>Noon.</i>	<i>Noon.</i>		<i>Noon.</i>	<i>Noon.</i>	
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	23 27 20.33	S. 4 23 16.2	1.2881548	8 43.5	352 52 34.0	S. 0 45 51.1	1.3
2	23 27 15.37	4 23 45.9	.2884464	8 39.5	352 53 12.7	0 45 51.0	.2
3	23 27 10.55	4 24 14.6	.2887422	8 35.4	352 53 51.3	0 45 50.9	.3
4	23 27 5.89	4 24 42.3	.2890421	8 31.4	352 54 30.0	0 45 50.8	.4
5	23 27 1.39	4 25 8.9	.2893461	8 27.4	352 55 8.6	0 45 50.8	.5
6	23 26 57.05	4 25 34.5	.2896541	8 23.4	352 55 47.3	0 45 50.7	.6
7	23 26 52.87	4 25 58.9	.2899659	8 19.4	352 56 25.9	0 45 50.6	.7
8	23 26 48.86	4 26 22.3	.2902815	8 15.4	352 57 4.6	0 45 50.5	.8
9	23 26 45.01	4 26 44.6	.2906007	8 11.4	352 57 43.3	0 45 50.4	.9
10	23 26 41.33	4 27 5.7	.2909234	8 7.4	352 58 21.9	0 45 50.3	.0
11	23 26 37.82	4 27 25.8	.2912496	8 3.4	352 59 0.6	0 45 50.2	.1
12	23 26 34.48	4 27 44.7	.2915791	7 59.5	352 59 39.3	0 45 50.1	.2
13	23 26 31.32	4 28 2.5	.2919117	7 55.5	353 0 17.9	0 45 50.1	.3
14	23 26 28.33	4 28 19.2	.2922474	7 51.5	353 0 56.6	0 45 50.0	.4
15	23 26 25.52	4 28 34.8	.2925861	7 47.5	353 1 35.3	0 45 49.9	.5
16	23 26 22.88	4 28 49.2	.2929276	7 43.6	353 2 13.9	0 45 49.8	.6
17	23 26 20.43	4 29 2.4	.2932720	7 39.6	353 2 52.6	0 45 49.7	.7
18	23 26 18.15	4 29 14.5	.2936190	7 35.6	353 3 31.3	0 45 49.6	.8
19	23 26 16.06	4 29 25.4	.2939683	7 31.6	353 4 10.0	0 45 49.5	.9
20	23 26 14.15	4 29 35.0	.2943200	7 27.7	353 4 48.6	0 45 49.4	.0
21	23 26 12.42	4 29 43.5	.2946739	7 23.7	353 5 27.3	0 45 49.4	.1
22	23 26 10.87	4 29 50.8	.2950300	7 19.8	353 6 6.0	0 45 49.3	.2
23	23 26 9.51	4 29 56.8	.2953880	7 15.8	353 6 44.7	0 45 49.2	.3
24	23 26 8.34	4 30 1.7	.2957479	7 11.9	353 7 23.4	0 45 49.1	.4
25	23 26 7.35	4 30 5.4	.2961095	7 7.9	353 8 2.1	0 45 49.0	.5
26	23 26 6.55	4 30 7.9	.2964728	7 4.0	353 8 40.7	0 45 48.9	.6
27	23 26 5.94	4 30 9.1	.2968376	7 0.0	353 9 19.4	0 45 48.8	.7
28	23 26 5.52	4 30 9.2	.2972038	6 56.1	353 9 58.1	0 45 48.7	.8
29	23 26 5.28	4 30 8.1	.2975714	6 52.1	353 10 36.8	0 45 48	.9
30	23 26 5.23	4 30 5.7	.2979401	6 48.2	353 11 15.5	0 45 48	.0
31	23 26 5.37	S. 4 30 2.1	1.2983100	6 44.3	353 11 54.2	S. 0 45 48	.1

NOVEMBER, 1841.

At Transit over the Meridian of Greenwich.

<i>Apparent Right Ascension.</i>	<i>Variation of Right Asc. in 1 Hour of Long.</i>	<i>Sid. Time of Sem. pass. Mer.</i>	<i>Apparent Declination.</i>	<i>Variation of Declination in 1 Hour of Long.</i>	<i>Semi- diameter.</i>	<i>Hor. Par.</i>
<i>h m s</i>	<i>s</i>	<i>s</i>	<i>° ′ ″</i>	<i>″</i>	<i>″</i>	<i>″</i>
23 27 18 50	— 0 21	0 13	S. 4 23 27 1	— 1 2	1 9	0 4
23 27 13 61	0 20	0 13	4 23 56 4	1 2	1 9	0 4
23 27 8 86	0 19	0 13	4 24 24 6	1 2	1 9	0 4
23 27 4 27	0 19	0 13	4 24 51 8	1 1	1 9	0 4
23 26 59 84	0 18	0 13	4 25 18 0	1 1	1 9	0 4
23 26 55 57	0 17	0 13	4 25 43 1	1 0	1 9	0 4
23 26 51 46	0 17	0 13	4 26 7 1	1 0	1 9	0 4
23 26 47 52	0 16	0 13	4 26 30 0	0 9	1 9	0 4
23 26 43 74	0 15	0 13	4 26 51 9	0 9	1 9	0 4
23 26 40 13	0 15	0 13	4 27 12 6	0 8	1 9	0 4
23 26 36 69	0 14	0 13	4 27 32 2	0 8	1 9	0 4
23 26 33 41	0 13	0 13	4 27 50 7	0 7	1 9	0 4
23 26 30 32	0 13	0 13	4 28 8 1	0 7	1 9	0 4
23 26 27 40	0 12	0 13	4 28 24 3	0 7	1 9	0 4
23 26 24 65	0 11	0 13	4 28 39 5	0 6	1 9	0 4
23 26 22 08	0 10	0 13	4 28 53 5	0 6	1 9	0 4
23 26 19 69	0 10	0 13	4 29 6 3	0 5	1 9	0 4
23 26 17 47	0 09	0 13	4 29 18 0	0 5	1 9	0 4
23 26 15 44	0 08	0 13	4 29 28 5	0 4	1 9	0 4
23 26 13 59	0 07	0 13	4 29 37 7	0 4	1 9	0 4
23 26 11 92	0 07	0 13	4 29 45 8	0 3	1 9	0 4
23 26 10 43	0 06	0 13	4 29 52 7	0 3	1 9	0 4
23 26 9 13	0 05	0 13	4 29 58 4	0 2	1 9	0 4
23 26 8 02	0 04	0 13	4 30 2 9	0 2	1 9	0 4
23 26 7 09	0 03	0 13	4 30 6 2	0 1	1 9	0 4
23 26 6 35	0 03	0 13	4 30 8 3	— 0 1	1 9	0 4
23 26 5 79	0 02	0 13	4 30 9 2	0 0	1 9	0 4
23 26 5 42	0 01	0 13	4 30 9 0	0 0	1 9	0 4
		0 13	4 30 7 5	+ 0 1	1 9	0 4
		3	4 30 4 8	0 1	1 9	0 4
			S. 4 30 0 9	+ 0 2	1 9	0 4

DECEMBER, 1841.

MEAN TIME.

Day of the Month.	Geocentric.				Heliocentric.		
	Apparent Right Ascension.	Apparent Declination.	Log. of True Dist. from the Earth.	Meridian Passage.	Longitude.	Latitude.	R
	Noon.	Noon.	Noon.		Noon.	Noon.	
	<i>h m s</i>	<i>° ′ ″</i>		<i>h m</i>	<i>° ′ ″</i>	<i>° ′ ″</i>	
1	23 26 5'37	S. 4 30 2'1	1'2983100	6 44'3	353 11 54'2	S. 0 45 48'5	1'3
2	23 26 5'70	4 29 57'3	'2986809	6 40'4	353 12 32'9	0 45 48'4	'3
3	23 26 6'22	4 29 51'3	'2990527	6 36'4	353 13 11'6	0 45 48'3	'3
4	23 26 6'93	4 29 44'1	'2994252	6 32'5	353 13 50'3	0 45 48'2	'3
5	23 26 7'83	4 29 35'7	'2997984	6 28'6	353 14 29'0	0 45 48'1	'3
6	23 26 8'92	4 29 26'0	'3001721	6 24'7	353 15 7'7	0 45 48'0	'3
7	23 26 10'20	4 29 15'1	'3005462	6 20'8	353 15 46'4	0 45 47'9	'3
8	23 26 11'67	4 29 3'0	'3009205	6 16'9	353 16 25'1	0 45 47'8	'3
9	23 26 13'34	4 28 49'7	'3012950	6 13'0	353 17 3'8	0 45 47'8	'3
10	23 26 15'19	4 28 35'1	'3016695	6 9'1	353 17 42'5	0 45 47'7	'3
11	23 26 17'23	4 28 19'4	'3020440	6 5'2	353 18 21'2	0 45 47'6	'3
12	23 26 19'46	4 28 2'4	'3024183	6 1'3	353 18 59'9	0 45 47'5	'3
13	23 26 21'88	4 27 44'2	'3027923	5 57'4	353 19 38'6	0 45 47'4	'3
14	23 26 24'50	4 27 24'8	'3031659	5 53'5	353 20 17'3	0 45 47'3	'3
15	23 26 27'30	4 27 4'2	'3035390	5 49'6	353 20 56'0	0 45 47'2	'3
16	23 26 30'29	4 26 42'3	'3039115	5 45'8	353 21 34'7	0 45 47'1	'3
17	23 26 33'46	4 26 19'3	'3042832	5 41'9	353 22 13'4	0 45 47'0	'3
18	23 26 36'82	4 25 55'1	'3046540	5 38'0	353 22 52'1	0 45 46'9	'3
19	23 26 40'37	4 25 29'7	'3050238	5 34'1	353 23 30'8	0 45 46'8	'3
20	23 26 44'10	4 25 3'2	'3053924	5 30'3	353 24 9'5	0 45 46'8	'3
21	23 26 48'02	4 24 35'4	'3057599	5 26'4	353 24 48'3	0 45 46'7	'3
22	23 26 52'12	4 24 6'5	'3061260	5 22'5	353 25 27'0	0 45 46'6	'3
23	23 26 56'40	4 23 36'5	'3064907	5 18'6	353 26 5'7	0 45 46'5	'3
24	23 27 0'86	4 23 5'3	'3068538	5 14'8	353 26 44'4	0 45 46'4	'3
25	23 27 5'50	4 22 33'0	'3072153	5 10'9	353 27 23'1	0 45 46'3	'3
26	23 27 10'32	4 21 59'5	'3075751	5 7'1	353 28 1'8	0 45 46'2	'3
27	23 27 15'32	4 21 24'9	'3079330	5 3'2	353 28 40'5	0 45 46'1	'3
28	23 27 20'49	4 20 49'2	'3082891	4 59'4	353 29 11'1	0 45 46'0	'3
29	23 27 25'83	4 20 12'4	'3086430	4 55'5			
30	23 27 31'35	4 19 34'5	'3089949	4 51'7			
31	23 27 37'04	4 18 55'5	'3093446	4 47'9			
32	23 27 42'90	S. 4 18 15'5	1'3096921	4 44'1			

DECEMBER, 1841.

At Transit over the Meridian of Greenwich.

parent light ension.	Variation of Right Asc. in 1 Hour of Long.	Sid. Time of Sem. pass. Mer.	Apparent Declination.	Variation of Declination in 1 Hour of Long.	Semi- diameter.	Hor. Par.
m s	s	s	° ' "	"	"	"
5 5 44	+ 0 01	0 13	S. 4 30 0 9	+ 0 2	1 9	0 4
5 5 82	0 02	0 13	4 29 55 7	0 2	1 9	0 4
5 6 39	0 03	0 13	4 29 49 4	0 3	1 9	0 4
5 7 15	0 04	0 13	4 29 41 9	0 3	1 9	0 4
5 8 10	0 04	0 13	4 29 33 2	0 4	1 9	0 4
5 9 24	0 05	0 13	4 29 23 2	0 4	1 9	0 4
5 10 57	0 06	0 13	4 29 12 0	0 5	1 9	0 4
5 12 09	0 07	0 13	4 28 59 6	0 5	1 9	0 4
5 13 80	0 08	0 13	4 28 46 0	0 6	1 9	0 4
5 15 70	0 08	0 13	4 28 31 1	0 6	1 9	0 4
5 17 78	0 09	0 13	4 28 15 1	0 7	1 9	0 4
5 20 05	0 10	0 13	4 27 57 9	0 7	1 9	0 4
5 22 51	0 11	0 13	4 27 39 5	0 8	1 9	0 4
5 25 16	0 11	0 13	4 27 19 8	0 8	1 9	0 4
5 28 00	0 12	0 13	4 26 59 0	0 9	1 9	0 4
5 31 03	0 13	0 13	4 26 36 9	0 9	1 9	0 4
5 34 24	0 14	0 12	4 26 13 6	1 0	1 8	0 4
5 37 63	0 15	0 12	4 25 49 2	1 0	1 8	0 4
5 41 21	0 15	0 12	4 25 23 6	1 1	1 8	0 4
5 44 97	0 16	0 12	4 24 56 9	1 1	1 8	0 4
5 48 92	0 17	0 12	4 24 28 9	1 2	1 8	0 4
5 53 05	0 18	0 12	4 23 59 8	1 2	1 8	0 4
5 57 36	0 18	0 12	4 23 29 7	1 3	1 8	0 4
7 1 85	0 19	0 12	4 22 58 3	1 3	1 8	0 4
7 6 52	0 20	0 12	4 22 25 9	1 4	1 8	0 4
7 11 37	0 21	0 12	4 21 52 2	1 4	1 8	0 4
7 16 39	0 21	0 12	4 21 17 5	1 5	1 8	0 4
7 21 59	0 22	0 12	4 20 41 7	1 5	1 8	0 4
7 26 95	0 23	0 12	4 20 4 7	1 6	1 8	0 4
1 49	0 23	0 12	4 19 26 7	1 6	1 8	0 4
90	0 24	0 12	4 18 47 6	1 6	1 8	0 4
	1 25	0 12	S. 4 18 7 5	+ 1 7	1 8	0 4

MEAN PLACES OF 100 PRINCIPAL FIXED STARS
FOR JANUARY 1, 1841.

Star's Name.	Mag.	Right Ascension.	Annual Var.	Declination.	Annual Var.
		^h ^m ^s	^s	[°] ['] ["]	["]
α ANDROMEDÆ - - -	1	0 0 10.790	+ 3.0711	N.28 12 47.12	+20.056
γ PEGASÍ (<i>Algenib</i>)	2.3	0 5 3.321	3.0779	N.14 17 58.87	20.051
β Hydri - - - - -	3	0 17 17.626	3.3102*	S.78 9 4.39	19.999
α CASSIOPEÆ - - -	3	0 31 31.304	3.3390	N.55 39 51.88	19.866
β Ceti - - - - -	2.3	0 35 36.281	+ 2.9998	S.18 51 34.90	+19.814
α URS. MIN. (<i>Polaris</i>)	2.3	1 2 27.184	16.6041*	N.88 27 41.26	19.313
θ^1 Ceti - - - - -	3	1 16 4.654	3.0014	S. 9 0 16.94	18.960
α Eridani (<i>Achernar</i>)	1	1 31 47.119	2.2346	S.58 2 46.66	18.468
α ARIETIS - - - - -	3	1 58 13.288	+ 3.3465	N.22 42 26.85	+17.445
γ Ceti - - - - -	3	2 35 4.112	3.1080	N. 2 33 43.07	15.636
α CETI - - - - -	2.3	2 53 58.471	3.1261	N. 3 27 42.43	14.548
α PERSEI - - - - -	2.3	3 13 0.198	4.2300	N.49 17 20.06	13.352
η Tauri - - - - -	3	3 38 2.678	+ 3.5464	N.23 36 30.94	+11.641
γ^1 Eridani - - - - -	2.3	3 50 36.802	2.7896	S.13 57 52.35	10.729
α TAURI (<i>Aldebaran</i>)	1	4 26 48.198	3.4269	N.16 11 1.92	7.930
α AURIGÆ (<i>Capella</i>)	1	5 4 57.178	4.4073	N.45 49 43.40	4.768
β ORIONIS (<i>Rigel</i>)	1	5 6 53.971	+ 2.8785	S. 8 23 24.69	+ 4.603
β TAURI - - - - -	2	5 16 14.740	3.7823	N.28 27 58.50	3.803
δ ORIONIS - - - - -	2	5 23 53.165	3.0607	S. 0 25 20.01	3.145
α Leporis - - - - -	3.4	5 25 43.204	2.6424	S.17 56 28.64	2.987
ϵ ORIONIS - - - - -	2.3	5 28 8.900	+ 3.0402	S. 1 18 31.37	+ 2.776
α COLUMBÆ - - - - -	2	5 33 53.686	2.1689	S.34 9 45.14	2.278
α ORIONIS - - - - -	1	5 46 33.953	3.2431	N. 7 22 18.31	+ 1.173
μ Geminorum - - - -	3	6 13 20.443	3.6257	N.22 35 21.18	- 1.169
α Argus - (<i>Canopus</i>)	1	6 20 25.506	+ 1.3279	S.52 36 40.22	- 1.786
δ^1 (Hev.) Cephei - -	6	6 23 56.110	30.8616	N.87 15 40.42	2.113
α CANIS MAJ. (<i>Sirius</i>)	1	6 38 8.563	2.6458*	S.16 30 11.91	4.465*
ϵ Canis Majoris - - -	2.3	6 52 22.742	2.3557	S.28 45 36.54	4.546
δ Geminorum - - - -	3.4	7 10 37.418	+ 3.5921	N.22 16 7.11	- 6.085
α^2 GEMINOR. (<i>Castor</i>)	3	7 24 26.843	3.8567	N.32 13 48.67	7.227
α CAN. MIN. (<i>Procyon</i>)	1.2	7 30 58.494	3.1447*	N. 5 37 38.09	8.737*
β GEMINOR. (<i>Pollux</i>)	2	7 35 34.756	3.6835*	N.28 24 14.86	8.127
15 Argus - - - - -	3.4	8 0 46.634	+ 2.5595	S.23 50 58.16	-10.088
ϵ Hydre - - - - -	4	8 38 21.221	3.1969	N. 6 59 53.82	12.783
ϵ Ursæ Majoris - - -	3.4	8 48 17.391	4.1283*	N.48 39.38.78	13.442
ι Argus - - - - -	2	9 12 50.142	1.6101	S.58 36 34.99	14.954
α HYDRÆ - - - - -	2	9 19 46.520	+ 2.9499	S. 7 58 20.20	-15.31
θ Ursæ Majoris - - -	3	9 22 11.172	4.0532*	N.52 23 51.47	16.0
ϵ Leonis - - - - -	3	9 36 48.956	3.4267	N.24 30 12.23	16
α LEONIS (<i>Regulus</i>)	1	9 59 54.025	+ 3.2216	N.12 44 28.90	-

MEAN PLACES OF 100 PRINCIPAL FIXED STARS,
FOR JANUARY 1, 1841.

Star's Name.	Mag.	Right Ascension.	Annual Var.	Declination.	Annual Var.
		^h ^m ^s	^s	^o ['] ["]	["]
α MAJORIS - - -	2	10 38 54.700	+ 2.3040	S. 58 51 0.18	-18.814
β MAJORIS - - -	1.2	10 53 51.643	3.8043	N. 62 36 28.30	19.227
γ IS - - - - -	3	11 5 38.617	3.1935	N. 21 23 40.82	19.495
δ et Crateris -	3.4	11 11 23.904	3.0007	S. 13 55 7.82	19.607
ε IS - - - - -	2.3	11 40 56.768	+ 3.0657*	N. 15 27 38.20	-19.987
ζ MAJORIS - - -	2	11 45 26.255	3.1896	N. 54 34 43.17	20.015
η leontis - - -	5	12 9 10.214	3.3324	S. 78 25 45.95	20.040
θ - - - - -	1	12 17 48.571	3.2677	S. 62 12 59.77	19.995
ι - - - - -	2.3	12 26 2.836	+ 3.1334	S. 22 30 55.83	-19.926
κ Venaticorum	2.3	12 48 34.923	2.8411	N. 39 10 42.57	19.606
λ INIS (<i>Spica</i>)	1	13 16 49.509	3.1506	S. 10 19 45.33	18.939
μ MAJORIS - - -	2.3	13 41 16.010	2.3530*	N. 50 6 32.15	18.129
ν - - - - -	3	13 47 6.867	+ 2.8606	N. 19 11 55.43	-17.904
ξ auri - - - - -	1	13 52 40.058	4.1466	S. 59 36 5.56	17.679
η (Arcturus)	1	14 8 24.699	2.7335*	N. 20 0 46.10	18.947*
θ auri - - - - -	1	14 28 51.856	4.0121*	S. 60 10 21.36	15.136*
ι IS - - - - -	3	14 38 2.622	+ 2.6229	N. 27 44 53.25	-15.472
κ - - - - -	3	14 42 5.613	+ 3.3094	S. 15 22 33.49	-15.243
λ MINORIS - - -	3	14 51 14.681	- 0.2745	N. 74 48 18.57	14.713
μ - - - - -	2.3	15 8 27.504	+ 3.2220	S. 8 47 28.84	13.647
ν BOREALIS	2	15 27 57.394	+ 2.5278	N. 27 15 13.08	-12.349
ξ ENTIS - - - -	2.3	15 36 26.373	+ 2.9388	N. 6 55 51.06	11.755
η Minoris - - -	4	15 49 52.726	- 2.3625	N. 78 16 49.34	10.786
θ ii - - - - -	2	15 56 12.049	+ 3.4735	S. 19 21 49.12	10.312
ι UCHI - - - - -	3	16 6 1.170	+ 3.1378	S. 3 16 43.40	- 9.566
κ ii (<i>Antares</i>)	1	16 19 40.154	3.6631	S. 26 4 21.62	8.500
λ onis - - - - -	3	16 21 50.882	0.7950	N. 61 52 31.22	8.328
μ guli Australis	2	16 31 53.811	+ 6.2539	S. 68 43 27.25	7.517
ν Minoris - - -	4	17 2 28.696	- 6.5474*	N. 82 17 17.37	- 4.985
ξ ULIS - - - - -	3.4	17 7 24.028	+ 2.7318	N. 14 34 36.88	4.561
η tis - - - - -	6	17 14 5.144	105.3519	S. 89 15 52.22	3.912
θ ONIS - - - - -	2	17 26 50.648	1.3510	N. 52 25 17.88	2.890
ι UCHI - - - - -	2	17 27 33.336	+ 2.7726	N. 12 40 55.83	- 2.828
κ ONIS - - - - -	2	17 52 54.976	1.3898	N. 51 30 36.46	- 0.619
λ tarii - - - - -	3.4	18 4 15.306	+ 3.5861	S. 21 5 33.22	+ 0.375
μ MINORIS - - -	3	18 23 37.226	- 19.2352*	N. 86 35 30.88	+ 2.049
ξ - - (<i>Vega</i>)	1	18 31 33.308	+ 2.0117	N. 38 38 20.04	+ 2.754
η - - - - -		44 12.654	2.2123	N. 33 10 56.20	3.847
		4.112	2.7566	N. 13 37 58.20	5.032
		6	+ 3.0086	N. 2 48 11.72	+ 6.654

MEAN PLACES OF 100 PRINCIPAL FIXED STARS,
FOR JANUARY 1, 1841.

Star's Name.	Mag.	Right Ascension.	Annual Var.	Declination.	Annual Var.
		^h ^m ^s	^s	[°] ['] ["]	["]
γ AQUILÆ - - - - -	3	19 38 41·983	+ 2·8511	N.10 13 51·27	+ 8·375
α AQUILÆ - (<i>Altair</i>)	1.2	19 43 1·481	2·9255*	N. 8 27 8·93	8·716
β AQUILÆ - - - - -	3.4	19 47 30·163	2·9447	N. 6 0 52·96	8·528*
α ^s CAPRICORNI - - -	3	20 9 13·627	3·3320	S.13 1 54·84	10·721
α Pavonis - - - - -	2	20 13 1·782	+ 4·8075	S.57 14 14·57	+11·002
λ Ursæ Minoris - - -	5	20 20 47·888	-50·6753	N.88 49 56·01	11·531
α CYGNI - - - - -	1	20 36 0·837	+ 2·0417	N.44 42 52·49	12·623
61' CYGNI - - - - -	5.6	20 59 46·564	2·6906*	N.37 58 17·56	17·465*
ζ Cygni - - - - -	3	21 6 10·380	+ 2·5485	N.29 34 42·09	+14·560
α CEPHEI - - - - -	3	21 14 46·677	1·4166	N.61 54 48·05	15·066
β AQUARII - - - - -	3	21 23 11·080	3·1632	S. 6 16 0·12	15·543
β CEPHEI - - - - -	3	21 26 35·015	0·8076	N.69 51 48·96	15·728
ε Pegasi - - - - -	2.3	21 36 22·666	+ 2·9441	N. 9 8 58·04	+16·246
α AQUARII - - - - -	3	21 57 36·939	3·0833	S. 1 5 20·74	17·265
α GRUIS - - - - -	2	21 58 10·763	3·8157	S.47 43 38·89	17·290
ζ Pegasi - - - - -	3	22 33 31·988	2·9836	N.10 0 12·50	18·646
α PIS. AUS. (<i>Fomalhaut</i>)	1	22 48 50·920	+ 3·3106	S.30 27 45·82	+19·098
α PEGASI (<i>Markab</i>)	2	22 56 50·727	2·9773	N.14 21 6·22	19·300
ι Piscium - - - - -	4.5	23 31 46·322	3·0567	N. 4 45 54·26	19·354*
γ Cephei - - - - -	3	23 32 52·850	+ 2·4006	N.76 44 41·75	+19·916

Those Annual Variations which include proper motion are distinguished by
an Asterisk.

FORMULÆ OF REDUCTION,

ACCORDING TO PROFESSOR BESSEL.

1.—*Adopting the Notation and Coefficients employed by Mr. Baily, in his Introduction to the New Tables of the Astronomical Society of London.*

$$A = -18^{\circ}6768 \cos \odot$$

$$B = -20^{\circ}3600 \sin \odot$$

$$C = t - 0^{\circ}02495 \sin 2 \odot - 0^{\circ}34362 \sin \Omega + 0^{\circ}00413 \sin 2 \Omega - 0^{\circ}004 \sin 2 \zeta$$

$$D = -0^{\circ}54470 \cos 2 \odot - 9^{\circ}25000 \cos \Omega + 0^{\circ}09030 \cos 2 \Omega - 0^{\circ}090 \cos 2 \zeta$$

$$a = \cos \alpha \sec \delta$$

$$b = \sin \alpha \sec \delta$$

$$c = 46^{\circ}0206 + 20^{\circ}0426 \sin \alpha \tan \delta$$

$$d = \cos \alpha \tan \delta$$

$$a' = \tan \omega \cos \delta - \sin \alpha \sin \delta$$

$$b' = \cos \alpha \sin \delta$$

$$c' = 20^{\circ}0426 \cos \alpha$$

$$d' = -\sin \alpha$$

Δc = the annual proper motion in Right Ascension, *in arc*.

$\Delta c'$ = the annual proper motion in Declination.

Where t denotes the time from the beginning of the year, expressed in fractional parts of a year, \odot the Sun's and ζ the Moon's true longitude, Ω the mean longitude of the Moon's node, and ω the obliquity of the Ecliptic, each for the time t : α the mean Right Ascension, *in arc*, and δ the mean Declination for the beginning of the year. Then, for the time represented by t ,

$$\text{Apparent R.A., in arc,} = \alpha + A a + B b + C c + D d + t \Delta c.$$

$$\text{Apparent Dec.} \quad \quad \quad = \delta + A a' + B b' + C c' + D d' + t \Delta c'.$$

2.—*Using the same Notation and Coefficients, and assuming*

$$46^{\circ}0206 C = f$$

$$B = h \cos H$$

$$20^{\circ}0426 C = g \cos G$$

$$A = h \sin H$$

$$D = g \sin G$$

$$A \tan \omega = i$$

$$\text{Apparent R.A., in arc,} = \alpha + f + t \Delta c$$

$$+ g \sin (G + \alpha) \tan \delta + h \sin (H + \alpha) \sec \delta$$

$$\text{Apparent Dec.} \quad \quad \quad = \delta + i \cos \delta + t \Delta c'$$

$$+ g \cos (G + \alpha) + h \cos (H + \alpha) \sin \delta$$

CONSTANTS FOR FACILITATING THE REDUCTION OF STARS

Day of the Month.	At Greenwich Mean Midnight.					
	<i>f</i>	<i>g</i>	<i>G</i>	<i>h</i>	<i>H</i>	<i>i</i>
Jan. 1	+10° 45'	+ 8° 01'	304 38	+20° 30'	349 26	— 1
6	11° 31'	8° 24'	306 43	20° 23'	344 42	2
11	12° 16'	8° 49'	308 34	20° 14'	339 57	3
16	12° 98'	8° 75'	310 12	20° 03'	335 9	3
21	+13° 77'	+ 9° 02'	311 39	+19° 91'	330 18	— 4
26	14° 53'	9° 29'	312 55	19° 77'	325 23	4
31	15° 25'	9° 56'	314 1	19° 62'	320 25	5
Feb. 5	15° 94'	9° 82'	315 0	19° 47'	315 22	5
10	+16° 59'	+10° 07'	315 53	+19° 33'	310 16	— 6
15	17° 21'	10° 30'	316 40	19° 19'	305 5	6
20	17° 79'	10° 53'	317 24	19° 06'	299 50	7
25	18° 35'	10° 74'	318 6	18° 94'	294 32	7
Mar. 2	+18° 88'	+10° 93'	318 46	+18° 84'	289 12	— 7
7	19° 39'	11° 11'	319 27	18° 76'	283 49	7
12	19° 89'	11° 28'	320 9	18° 71'	278 25	8
17	20° 37'	11° 44'	320 52	18° 68'	273 0	8
22	+20° 86'	+11° 58'	321 38	+18° 68'	267 35	— 8
27	21° 34'	11° 72'	322 27	18° 70'	262 12	8
April 1	21° 84'	11° 86'	323 19	18° 75'	256 51	7
6	22° 35'	11° 99'	324 14	18° 83'	251 34	7
11	+22° 88'	+12° 13'	325 12	+18° 92'	246 20	— 7
16	23° 43'	12° 28'	326 14	19° 03'	241 10	7
21	24° 01'	12° 43'	327 18	19° 16'	236 4	6
26	24° 62'	12° 59'	328 23	19° 29'	231 4	6
May 1	+25° 26'	+12° 77'	329 30	+19° 43'	226 9	— 6
6	25° 93'	12° 96'	330 37	19° 57'	221 19	5
11	26° 64'	13° 17'	331 44	19° 71'	216 33	5
16	27° 37'	13° 40'	332 50	19° 85'	211 52	4
21	+28° 14'	+13° 65'	333 53	+19° 97'	207 15	— 3
26	28° 93'	13° 91'	334 54	20° 08'	202 42	3
31	29° 75'	14° 20'	335 51	20° 18'	198 13	2
June 5	30° 58'	14° 50'	336 44	20° 25'	193 46	2
10	+31° 44'	+14° 81'	337 33	+20° 31'	189 21	— 1
15	32° 30'	15° 14'	338 17	20° 35'	184 57	0
20	33° 17'	15° 48'	338 57	20° 36'	180 34	— 0
25	34° 04'	15° 82'	339 32	20° 35'	176 12	+ 0
30	34° 90'	16° 17'	340 2	20° 32'	171 49	1
July 5	+35° 76'	+16° 52'	340 28	+20° 27'	167 25	+ 1

CONSTANTS FOR FACILITATING THE REDUCTION OF STARS.

Day of the Month.	At Greenwich Mean Midnight.					
	<i>f</i>	<i>g</i>	<i>G</i>	<i>h</i>	<i>H</i>	<i>i</i>
July 5	+35 ^{''} 76	+16 ^{''} 52	340 [°] 28 [']	+20 ^{''} 27	167 [°] 25 [']	+ 1 ^{''} 93
10	36 ^{''} 59	16 ^{''} 87	340 [°] 49	20 ^{''} 20	162 [°] 59	2 ^{''} 58
15	37 ^{''} 41	17 ^{''} 22	341 [°] 7	20 ^{''} 11	158 [°] 31	3 ^{''} 20
20	38 ^{''} 21	17 ^{''} 56	341 [°] 22	20 ^{''} 00	154 [°] 1	3 ^{''} 81
25	+38 ^{''} 98	+17 ^{''} 89	341 [°] 34	+19 ^{''} 88	149 [°] 26	+ 4 ^{''} 39
30	39 ^{''} 72	18 ^{''} 22	341 [°] 44	19 ^{''} 75	144 [°] 49	4 ^{''} 94
Aug. 4	40 ^{''} 43	18 ^{''} 53	341 [°] 52	19 ^{''} 61	140 [°] 7	5 ^{''} 46
9	41 ^{''} 11	18 ^{''} 83	341 [°] 59	19 ^{''} 47	135 [°] 21	5 ^{''} 94
14	+41 ^{''} 75	+19 ^{''} 11	342 [°] 4	+19 ^{''} 33	130 [°] 30	+ 6 ^{''} 38
19	42 ^{''} 37	19 ^{''} 38	342 [°] 10	19 ^{''} 20	125 [°] 34	6 ^{''} 78
24	42 ^{''} 95	19 ^{''} 64	342 [°] 16	19 ^{''} 07	120 [°] 33	7 ^{''} 13
29	43 ^{''} 51	19 ^{''} 88	342 [°] 22	18 ^{''} 96	115 [°] 28	7 ^{''} 43
Sept. 3	+44 ^{''} 04	+20 ^{''} 11	342 [°] 29	+18 ^{''} 86	110 [°] 19	+ 7 ^{''} 68
8	44 ^{''} 55	20 ^{''} 33	342 [°] 38	18 ^{''} 78	105 [°] 6	7 ^{''} 87
13	45 ^{''} 05	20 ^{''} 53	342 [°] 48	18 ^{''} 72	99 [°] 50	8 ^{''} 01
18	45 ^{''} 53	20 ^{''} 73	343 [°] 1	18 ^{''} 69	94 [°] 31	8 ^{''} 09
23	+46 ^{''} 01	+20 ^{''} 92	343 [°] 15	+18 ^{''} 68	89 [°] 11	+ 8 ^{''} 11
28	46 ^{''} 49	21 ^{''} 11	343 [°] 32	18 ^{''} 69	83 [°] 50	8 ^{''} 07
Oct. 3	46 ^{''} 97	21 ^{''} 30	343 [°] 51	18 ^{''} 74	78 [°] 29	7 ^{''} 97
8	47 ^{''} 46	21 ^{''} 48	344 [°] 12	18 ^{''} 80	73 [°] 9	7 ^{''} 81
13	+47 ^{''} 98	+21 ^{''} 67	344 [°] 35	+18 ^{''} 89	67 [°] 51	+ 7 ^{''} 59
18	48 ^{''} 51	21 ^{''} 87	345 [°] 0	19 ^{''} 00	62 [°] 35	7 ^{''} 32
23	49 ^{''} 07	22 ^{''} 08	345 [°] 27	19 ^{''} 12	57 [°] 22	6 ^{''} 99
28	49 ^{''} 66	22 ^{''} 30	345 [°] 55	19 ^{''} 26	52 [°] 13	6 ^{''} 61
Nov. 2	+50 ^{''} 28	+22 ^{''} 53	346 [°] 24	+19 ^{''} 40	47 [°] 7	+ 6 ^{''} 17
7	50 ^{''} 94	22 ^{''} 78	346 [°] 53	19 ^{''} 55	42 [°] 5	5 ^{''} 69
12	51 ^{''} 63	23 ^{''} 05	347 [°] 22	19 ^{''} 70	37 [°] 7	5 ^{''} 16
17	52 ^{''} 36	23 ^{''} 33	347 [°] 51	19 ^{''} 84	32 [°] 12	4 ^{''} 59
22	+53 ^{''} 12	+23 ^{''} 63	348 [°] 18	+19 ^{''} 97	27 [°] 21	+ 3 ^{''} 98
27	53 ^{''} 91	23 ^{''} 94	348 [°] 44	20 ^{''} 08	22 [°] 33	3 ^{''} 34
Dec. 2	54 ^{''} 73	24 ^{''} 27	349 [°] 8	20 ^{''} 18	17 [°] 48	2 ^{''} 68
7	55 ^{''} 57	24 ^{''} 61	349 [°] 30	20 ^{''} 26	13 [°] 5	1 ^{''} 99
12	+56 ^{''} 42	+24 ^{''} 97	349 [°] 49	+20 ^{''} 32	8 [°] 23	+ 1 ^{''}
17	57 ^{''} 29	25 ^{''} 33	350 [°] 6	20 ^{''} 35	3 [°] 42	+ 0 ^{''}
22	58 ^{''} 16	25 ^{''} 70	350 [°] 20	20 ^{''} 36	359 [°] 1	- 0 ^{''}
27	59 ^{''} 04	26 ^{''} 07	350 [°] 31	20 ^{''} 34	354 [°] 21	- 0 ^{''}
32	+59 ^{''} 90	+26 ^{''} 44	350 [°] 40	+20 ^{''} 30	349 [°] 39	- 0 ^{''}

APPARENT PLACES OF α AND δ URSÆ MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

JANUARY.					FEBRUARY.				
Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.		Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h 1 ^m 1	^o 88 ['] 28	^h 18 ^m 23	^o 86 ['] 35		^h 1 ^m 1	^o 88 ['] 28	^h 18 ^m 23	^o 86 ['] 35
1	79° 88	7° 6	9° 36	22° 9	1	55° 93	7° 2	12° 00	13° 1
2	79° 09	7° 6	9° 35	22° 6	2	55° 21	7° 1	12° 20	12° 9
3	78° 30	7° 7	9° 34	22° 2	3	54° 49	7° 0	12° 40	12° 6
4	77° 52	7° 8	9° 34	21° 9	4	53° 78	6° 9	12° 60	12° 3
5	76° 73	7° 9	9° 34	21° 6	5	53° 08	6° 7	12° 81	12° 1
6	75° 94	7° 9	9° 35	21° 2	6	52° 39	6° 6	13° 02	11° 8
7	75° 16	8° 0	9° 36	20° 9	7	51° 70	6° 4	13° 24	11° 6
8	74° 37	8° 0	9° 38	20° 6	8	51° 02	6° 3	13° 47	11° 3
9	73° 58	8° 1	9° 41	20° 2	9	50° 35	6° 2	13° 70	11° 1
10	72° 80	8° 1	9° 45	19° 9	10	49° 69	6° 0	13° 94	10° 8
11	72° 01	8° 1	9° 49	19° 6	11	49° 04	5° 8	14° 18	10° 6
12	71° 23	8° 2	9° 54	19° 2	12	48° 39	5° 7	14° 43	10° 3
13	70° 45	8° 2	9° 60	18° 9	13	47° 75	5° 5	14° 68	10° 1
14	69° 66	8° 2	9° 66	18° 6	14	47° 11	5° 3	14° 94	9° 9
15	68° 87	8° 2	9° 73	18° 3	15	46° 49	5° 1	15° 20	9° 7
16	68° 09	8° 2	9° 81	18° 0	16	45° 88	4° 9	15° 46	9° 5
17	67° 31	8° 2	9° 90	17° 6	17	45° 28	4° 7	15° 73	9° 3
18	66° 53	8° 1	9° 99	17° 3	18	44° 70	4° 5	16° 01	9° 1
19	65° 76	8° 1	10° 09	17° 0	19	44° 13	4° 3	16° 29	8° 9
20	64° 98	8° 1	10° 20	16° 7	20	43° 56	4° 1	16° 58	8° 7
21	64° 21	8° 0	10° 32	16° 4	21	43° 00	3° 9	16° 87	8° 5
22	63° 44	8° 0	10° 44	16° 1	22	42° 45	3° 6	17° 16	8° 3
23	62° 67	8° 0	10° 57	15° 8	23	41° 91	3° 4	17° 46	8° 1
24	61° 91	7° 9	10° 70	15° 5	24	41° 39	3° 2	17° 76	7° 9
25	61° 15	7° 8	10° 84	15° 2	25	40° 88	3° 0	18° 06	7° 8
26	60° 39	7° 8	10° 99	14° 9	26	40° 38	2° 7	18° 37	7° 6
27	59° 64	7° 7	11° 14	14° 6	27	39° 89	2° 5	18° 68	7° 5
28	58° 89	7° 6	11° 30	14° 3	28	39° 41	2° 3	19° 00	7° 3
29	58° 14	7° 5	11° 47	14° 0	29	38° 94	2° 0	19° 32	7° 2
30	57° 40	7° 4	11° 64	13° 7					
31	56° 66	7° 3	11° 82	13° 4					
32	55° 93	7° 2	12° 00	13° 1					

APPARENT PLACES OF α AND δ URSE MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

MARCH.					APRIL.				
Day of the Month.	α URSE MINOR. (Polaris)		δ URSE MINOR.		Day of the Month.	α URSE MINOR. (Polaris)		δ URSE MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 1 1	^o ['] 88 27	^h ^m 18 23	^o ['] 86 35		^h ^m 1 1	^o ['] 88 27	^h ^m 18 23	^o ['] 86 35
1	^s 38 '94	["] 62 '0	^s 19 '32	["] 7 '2	1	^s 31 '53	["] 53 '1	^s 30 '03	["] 5 '8
2	38 '49	61 '8	19 '64	7 '0	2	31 '53	52 '8	30 '38	5 '8
3	38 '06	61 '5	19 '96	6 '9	3	31 '55	52 '5	30 '73	5 '9
4	37 '64	61 '3	20 '29	6 '8	4	31 '58	52 '2	31 '07	6 '0
5	37 '23	61 '0	20 '62	6 '7	5	31 '62	51 '9	31 '41	6 '0
6	36 '83	60 '7	20 '95	6 '5	6	{ ^{31 '67} } { ^{51 '6} }	{ ^{51 '6} }	31 '75	6 '1
7	36 '44	60 '5	21 '29	6 '4	7	31 '82	51 '0	32 '09	6 '2
8	36 '07	60 '2	21 '63	6 '3	8	31 '92	50 '7	32 '43	6 '3
9	35 '71	59 '9	21 '97	6 '2	9	32 '04	50 '4	32 '76	6 '4
10	35 '36	59 '6	22 '31	6 '2	10	32 '17	50 '1	33 '09	6 '5
11	35 '02	59 '4	22 '66	6 '1	11	32 '32	49 '8	33 '42	6 '6
12	34 '70	59 '1	23 '00	6 '0	12	32 '50	49 '5	33 '75	6 '7
13	34 '40	58 '8	23 '34	5 '9	13	32 '69	49 '2	34 '07	6 '8
14	34 '12	58 '5	23 '69	5 '9	14	32 '89	48 '9	34 '39	7 '0
15	33 '86	58 '2	24 '04	5 '8	15	33 '10	48 '6	34 '71	7 '1
16	33 '61	57 '9	24 '39	5 '8	16	33 '33	48 '3	35 '03	7 '3
17	33 '37	57 '6	24 '74	5 '7	17	33 '57	48 '0	35 '35	7 '4
18	33 '15	57 '3	25 '09	5 '7	18	33 '82	47 '7	35 '66	7 '6
19	32 '94	57 '0	25 '44	5 '6	19	34 '09	47 '4	35 '97	7 '7
20	32 '74	56 '7	25 '79	5 '6	20	34 '38	47 '1	36 '27	7 '9
21	32 '56	56 '4	26 '14	5 '6	21	34 '67	46 '8	36 '57	8 '0
22	32 '39	56 '1	26 '50	5 '6	22	34 '98	46 '5	36 '87	8 '2
23	32 '24	55 '8	26 '86	5 '5	23	35 '31	46 '3	37 '16	8 '4
24	32 '10	55 '5	27 '22	5 '6	24	35 '65	46 '0	37 '45	8 '6
25	31 '98	55 '2	27 '57	5 '6	25	35 '99	45 '7	37 '74	
26	31 '87	54 '9	27 '92	5 '6	26	36 '35	45 '5	38	
27	31 '78	54 '6	28 '28	5 '6	27	36 '73	45 '2	:	
28	31 '70	54 '3	28 '63	5 '6	28	37 '12	44 '0		
29	31 '63	54 '0	28 '98	5 '6	29	37 '52	44		
30	31 '58	53 '7	29 '33	5 '7	30	37 '93	44		
31	31 '55	53 '4	29 '68	5 '7					
32	31 '53	53 '1	30 '03	5 '8	31	38 '36	4		

APPARENT PLACES OF α AND δ URSÆ MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

MAY.					JUNE.				
Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.		Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m 1 1	^o ['] 88 27	^h ^m 18 23	^o ['] 86 35		^h ^m 1 1	^o ['] 88 27	^h ^m 18 23	^o ['] 86 35
1	38 36	44 2	39 36	9 9	1	57 02	38 3	44 87	18 4
2	38 81	43 9	39 62	10 2	2	57 76	38 2	44 96	18 7
3	39 27	43 7	39 87	10 4	3	58 51	38 1	45 05	19 0
4	39 73	43 4	40 12	10 6	4	59 26	38 0	45 12	19 3
5	40 21	43 2	40 36	10 9	5	60 02	37 9	45 18	19 6
6	40 70	42 9	40 60	11 1	6	60 78	37 8	45 24	20 0
7	41 20	42 7	40 84	11 3	7	61 55	37 7	45 29	20 3
8	41 71	42 5	41 06	11 6	8	62 32	37 7	45 34	20 6
9	42 23	42 3	41 28	11 8	9	63 09	37 6	45 38	20 9
10	42 77	42 0	41 50	12 1	10	63 88	37 5	45 41	21 3
11	43 32	41 8	41 71	12 3	11	64 67	37 5	45 44	21 6
12	43 88	41 6	41 92	12 6	12	65 46	37 4	45 47	21 9
13	44 45	41 4	42 12	12 8	13	66 25	37 4	45 48	22 3
14	45 03	41 2	42 31	13 1	14	67 05	37 3	45 49	22 6
15	45 63	41 0	42 50	13 4	15	67 85	37 2	45 49	22 9
16	46 24	40 8	42 69	13 6	16	68 66	37 2	45 49	23 2
17	46 85	40 6	42 87	13 9	17	69 47	37 2	45 48	23 6
18	47 47	40 4	43 05	14 2	18	70 28	37 2	45 47	23 9
19	48 10	40 2	43 22	14 5	19	71 10	37 2	45 45	24 2
20	48 74	40 1	43 38	14 8	20	71 92	37 1	45 42	24 5
21	49 39	39 9	43 54	15 1	21	72 74	37 1	45 38	24 9
22	50 05	39 7	43 69	15 4	22	73 56	37 1	45 34	25 2
23	50 71	39 6	43 83	15 6	23	74 38	37 1	45 29	25 5
24	51 38	39 4	43 97	15 9	24	75 21	37 1	45 23	25 9
25	52 06	39 3	44 11	16 2	25	76 04	37 2	45 17	26 2
26	52 74	39 1	44 23	16 5	26	76 87	37 2	45 10	26 5
27	53 43	39 0	44 35	16 8	27	77 70	37 2	45 03	26 9
28	54 14	38 8	44 47	17 1	28	78 53	37 2	44 95	27 2
29	54 85	38 7	44 58	17 4	29	79 36	37 3	44 87	27 5
30	55 56	38 6	44 68	17 8	30	80 19	37 3	44 78	27 8
31	56 28	38 5	44 78	18 1	31	81 02	37 4	44 68	28 1
32	57 02	38 3	44 87	18 4					

APPARENT PLACES OF α AND δ URSE MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

JULY.					AUGUST.				
Day of the Month.	α URSE MINOR. (Polaris)		δ URSE MINOR.		Day of the Month.	α URSE MINOR. (Polaris)		δ URSE MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h ^m ^s 1 2 88 27	^h ^m ^s 18 23 86 35				^h ^m ^s 1 2 88 27	^h ^m ^s 18 23 86 35		
1	21 02	37 4	44 68	28 1	1	45 89	41 4	38 77	37 4
2	21 85	37 4	44 57	28 5	2	46 63	41 7	38 49	37 7
3	22 69	37 5	44 45	28 8	3	47 36	41 9	38 21	37 9
4	23 53	37 5	44 34	29 1	4	48 09	42 1	37 93	38 2
5	24 36	37 6	44 22	29 5	5	48 82	42 3	37 64	38 5
6	25 19	37 7	44 10	29 8	6	49 53	42 5	37 34	38 7
7	26 02	37 8	43 97	30 1	7	50 24	42 8	37 04	38 9
8	26 85	37 8	43 83	30 4	8	50 95	43 0	36 73	39 2
9	27 68	37 9	43 68	30 7	9	51 64	43 3	36 42	39 4
10	28 51	38 0	43 52	31 0	10	52 33	43 5	36 11	39 6
11	29 33	38 1	43 36	31 4	11	53 02	43 8	35 80	39 9
12	30 15	38 2	43 19	31 7	12	53 70	44 0	35 48	40 1
13	30 97	38 3	43 02	32 0	13	54 37	44 3	35 16	40 3
14	31 78	38 5	42 85	32 3	14	55 04	44 5	34 83	40 6
15	32 59	38 6	42 68	32 6	15	55 70	44 8	34 49	40 8
16	33 40	38 7	42 49	32 9	16	56 35	45 1	34 15	41 0
17	34 21	38 9	42 30	33 2	17	57 00	45 4	33 81	41 2
18	35 01	39 0	42 10	33 5	18	57 63	45 6	33 47	41 4
19	35 81	39 1	41 89	33 8	19	58 26	45 9	33 12	41 6
20	36 61	39 3	41 68	34 1	20	58 88	46 2	32 77	41 8
21	37 41	39 4	41 46	34 4	21	59 48	46 5	32 41	42 0
22	38 20	39 6	41 24	34 7	22	60 08	46 8	32 05	42 2
23	38 99	39 7	41 02	34 9	23	60 67	47 1	31 69	42 4
24	39 78	39 9	40 79	35 2	24	61 25	47 4	31 33	
25	40 56	40 1	40 55	35 5	25	61 82	47 7		
26	41 33	40 3	40 31	35 8	26	62 39	48 0		
27	42 10	40 5	40 06	36 1	27	62 95	48 3		
28	42 87	40 6	39 81	36 4	28	63 50	48 6		
29	43 64	40 8	39 56	36 6	29	64 05	48 9		
30	44 40	41 0	39 31	36 9	30	64 58	49 2		
31	45 15	41 2	39 04	37 2	31	65 10	49 5		
32	45 89	41 4	38 77	37 4	32	65 61	49 8		

APPARENT PLACES OF α AND δ URSAE MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

SEPTEMBER.					OCTOBER.				
Day of the Month.	α URSAE MINOR. (Polaris)		δ URSAE MINOR.		Day of the Month.	α URSAE MINOR. (Polaris)		δ URSAE MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h 1 ^m 3	^o 88 ['] 27	^h 18 ^m 23	^o 86 ['] 35		^h 1 ^m 3	^o 88 ['] 28	^h 18 ^m 23	^o 86 ['] 35
1	^s 5 [.] 61	49 ["] 9	^s 28 [.] 30	43 ["] 9	1	^s 16 [.] 12	0 ["] 7	^s 15 [.] 80	46 ["] 2
2	6 [.] 10	50 [.] 2	27 [.] 91	44 [.] 0	2	16 [.] 29	1 [.] 1	15 [.] 37	46 [.] 2
3	6 [.] 59	50 [.] 6	27 [.] 52	44 [.] 1	3	16 [.] 45	1 [.] 4	14 [.] 94	46 [.] 2
4	7 [.] 07	50 [.] 9	27 [.] 12	44 [.] 3	4	16 [.] 61	1 [.] 8	14 [.] 51	46 [.] 2
5	7 [.] 54	51 [.] 2	26 [.] 72	44 [.] 4	5	16 [.] 75	2 [.] 2	14 [.] 08	46 [.] 1
6	8 [.] 01	51 [.] 6	26 [.] 32	44 [.] 5	6	16 [.] 88	2 [.] 6	13 [.] 65	46 [.] 1
7	8 [.] 47	51 [.] 9	25 [.] 92	44 [.] 7	7	17 [.] 00	3 [.] 0	13 [.] 23	46 [.] 1
8	8 [.] 91	52 [.] 2	25 [.] 51	44 [.] 8	8	17 [.] 10	3 [.] 3	12 [.] 80	46 [.] 0
9	9 [.] 35	52 [.] 6	25 [.] 10	44 [.] 9	9	17 [.] 19	3 [.] 7	12 [.] 38	46 [.] 0
10	9 [.] 78	52 [.] 9	24 [.] 69	45 [.] 0	10	17 [.] 27	4 [.] 1	11 [.] 96	46 [.] 0
11	10 [.] 19	53 [.] 3	24 [.] 28	45 [.] 1	11	17 [.] 34	4 [.] 5	11 [.] 53	45 [.] 9
12	10 [.] 59	53 [.] 6	23 [.] 87	45 [.] 2	12	17 [.] 40	4 [.] 9	11 [.] 10	45 [.] 9
13	10 [.] 98	54 [.] 0	23 [.] 45	45 [.] 3	13	17 [.] 44	5 [.] 3	10 [.] 68	45 [.] 8
14	11 [.] 35	54 [.] 4	23 [.] 04	45 [.] 4	14	17 [.] 46	5 [.] 7	10 [.] 26	45 [.] 8
15	11 [.] 71	54 [.] 7	22 [.] 62	45 [.] 5	15	17 [.] 47	6 [.] 1	9 [.] 84	45 [.] 7
16	12 [.] 07	55 [.] 1	22 [.] 20	45 [.] 6	16	17 [.] 47	6 [.] 4	9 [.] 42	45 [.] 7
17	12 [.] 42	55 [.] 4	21 [.] 78	45 [.] 6	17	17 [.] 46	6 [.] 8	9 [.] 00	45 [.] 6
18	12 [.] 76	55 [.] 8	21 [.] 36	45 [.] 7	18	17 [.] 44	7 [.] 2	8 [.] 58	45 [.] 5
19	13 [.] 09	56 [.] 2	20 [.] 93	45 [.] 8	19	17 [.] 41	7 [.] 6	8 [.] 17	45 [.] 4
20	13 [.] 41	56 [.] 5	20 [.] 51	45 [.] 8	20	17 [.] 36	8 [.] 0	7 [.] 76	45 [.] 3
21	13 [.] 71	56 [.] 9	20 [.] 08	45 [.] 9	21	17 [.] 30	8 [.] 3	7 [.] 35	45 [.] 2
22	14 [.] 00	57 [.] 3	19 [.] 65	45 [.] 9	22	17 [.] 24	8 [.] 7	6 [.] 95	45 [.] 1
23	14 [.] 28	57 [.] 7	19 [.] 22	46 [.] 0	23	17 [.] 16	9 [.] 1	6 [.] 54	45 [.] 0
24	14 [.] 55	58 [.] 0	18 [.] 80	46 [.] 0	24	17 [.] 07	9 [.] 5	6 [.] 13	44 [.] 9
25	14 [.] 81	58 [.] 4	18 [.] 38	46 [.] 1	25	16 [.] 96	9 [.] 9	5 [.] 73	44 [.] 8
26	15 [.] 06	58 [.] 8	17 [.] 95	46 [.] 1	26	16 [.] 84	10 [.] 3	5 [.] 33	44 [.] 7
27	15 [.] 30	59 [.] 1	17 [.] 52	46 [.] 1	27	16 [.] 71	10 [.] 7	4 [.] 93	44 [.] 6
28	15 [.] 53	59 [.] 5	17 [.] 09	46 [.] 1	28	16 [.] 56	11 [.] 0	4 [.] 53	44 [.] 4
29	15 [.] 74	59 [.] 9	16 [.] 66	46 [.] 1	29	16 [.] 40	11 [.] 4	4 [.] 14	44 [.] 3
30	15 [.] 93	60 [.] 3	16 [.] 23	46 [.] 1	30	16 [.] 23	11 [.] 7	3 [.] 75	44 [.] 2
31	16 [.] 12	60 [.] 7	15 [.] 80	46 [.] 2	31	16 [.] 05	12 [.] 1	3 [.] 37	44 [.] 0
					32	15 [.] 85	12 [.] 4	2 [.] 99	43 [.] 9

APPARENT PLACES OF α AND δ URSÆ MINORIS,
FOR THE UPPER TRANSIT AT GREENWICH.

NOVEMBER.					DECEMBER.				
Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.		Day of the Month.	α URSÆ MINOR. (Polaris)		δ URSÆ MINOR.	
	R. A.	Dec. N.	R. A.	Dec. N.		R. A.	Dec. N.	R. A.	Dec. N.
	^h 1	^m 3	^o 88	['] 28	^h 18	^m 22	^o 86	['] 35	
1	^s 15	["] 85	^s 12	["] 4	1	^s 64	["] 37	^s 53	["] 42
2	15	64	12	7	2	63	82	53	17
3	15	41	13	1	3	63	26	52	93
4	15	18	13	5	4	62	68	52	70
5	14	94	13	9	5	62	09	52	48
6	14	68	14	2	6	61	50	52	27
7	14	41	14	6	7	60	90	52	06
8	14	13	14	9	8	60	29	51	86
9	13	83	15	3	9	59	67	51	66
10	13	52	15	6	10	59	04	51	47
11	13	20	15	9	11	58	40	51	29
12	12	87	16	3	12	57	76	51	11
13	12	52	16	6	13	57	11	50	94
14	12	16	17	0	14	56	44	50	78
15	11	80	17	3	15	55	77	50	63
16	11	42	17	6	16	55	10	50	48
17	11	03	17	9	17	54	42	50	33
18	10	63	18	3	18	53	74	50	19
19	10	22	18	6	19	53	05	50	06
20	9	79	18	9	20	52	35	49	93
21	9	34	19	2	21	51	63	49	81
22	8	89	19	5	22	50	91	49	70
23	8	43	19	8	23	50	18	49	61
24	7	97	20	1	24	49	45		
25	7	49	20	4	25	48	72		
26	7	00	20	7	26	47	91		
27	6	49	21	0	27	47	2		
28	5	97	21	2	28	46			
29	5	44	21	5	29	45			
30	4	91	21	8	30	4			
31	4	37	22	1	31	4			
					32				

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α ANDROMEDÆ.			γ PEGASI. (Algenib)			β Hydri.		
	R. A.		Dec. North.	R. A.		Dec. North.	R. A.		Dec.
	^h 0	^m 0	^o 28 ⁱ 12	^h 0	^m 5	^o 14 ⁱ 17	^h 0	^m 17	^o 78
Jan. 1	10 ^s 98 ^s	0 ^s 13 ^s	59 ^o 7 ^o	3 ^s 69 ^s	0 ^s 11 ^s	67 ^o 0 ^o	19 ^s 62 ^s	0 ^s 93 ^s	79 ^o 3 ^o
11	10 ^s 85 ^s	0 ^s 12 ^s	58 ^o 8 ^o	3 ^s 58 ^s	0 ^s 10 ^s	66 ^o 2 ^o	18 ^s 69 ^s	0 ^s 86 ^s	78 ^o 3 ^o
21	10 ^s 73 ^s	0 ^s 11 ^s	57 ^o 5 ^o	3 ^s 48 ^s	0 ^s 09 ^s	65 ^o 2 ^o	17 ^s 83 ^s	0 ^s 76 ^s	76 ^o 3 ^o
31	10 ^s 62 ^s	0 ^s 09 ^s	56 ^o 2 ^o	3 ^s 39 ^s	0 ^s 07 ^s	64 ^o 2 ^o	17 ^s 07 ^s	0 ^s 66 ^s	74 ^o 1 ^o
Feb. 10	10 ^s 53 ^s	0 ^s 05 ^s	54 ^o 7 ^o	3 ^s 32 ^s	0 ^s 05 ^s	63 ^o 2 ^o	16 ^s 41 ^s	0 ^s 52 ^s	71 ^o 4 ^o
20	10 ^s 48 ^s	0 ^s 03 ^s	53 ^o 1 ^o	3 ^s 27 ^s	0 ^s 02 ^s	62 ^o 3 ^o	15 ^s 89 ^s	0 ^s 40 ^s	68 ^o 2 ^o
Mar. 2	10 ^s 45 ^s	0 ^s 01 ^s	51 ^o 5 ^o	3 ^s 25 ^s	0 ^s 01 ^s	61 ^o 4 ^o	15 ^s 49 ^s	0 ^s 24 ^s	64 ^o 7 ^o
12	10 ^s 46 ^s	0 ^s 06 ^s	50 ^o 1 ^o	3 ^s 26 ^s	0 ^s 05 ^s	60 ^o 6 ^o	15 ^s 25 ^s	0 ^s 08 ^s	61 ^o 1 ^o
22	10 ^s 52 ^s	0 ^s 10 ^s	48 ^o 7 ^o	3 ^s 31 ^s	0 ^s 09 ^s	60 ^o 2 ^o	15 ^s 17 ^s	0 ^s 10 ^s	57 ^o 2 ^o
Apr. 1	10 ^s 62 ^s	0 ^s 14 ^s	47 ^o 6 ^o	3 ^s 40 ^s	0 ^s 14 ^s	59 ^o 9 ^o	15 ^s 27 ^s	0 ^s 25 ^s	53 ^o 0 ^o
11	10 ^s 76 ^s	0 ^s 20 ^s	46 ^o 8 ^o	3 ^s 54 ^s	0 ^s 17 ^s	59 ^o 9 ^o	15 ^s 52 ^s	0 ^s 42 ^s	49 ^o 2 ^o
21	10 ^s 96 ^s	0 ^s 23 ^s	46 ^o 5 ^o	3 ^s 71 ^s	0 ^s 22 ^s	60 ^o 3 ^o	15 ^s 94 ^s	0 ^s 56 ^s	45 ^o 5 ^o
May 1	11 ^s 19 ^s	0 ^s 27 ^s	46 ^o 4 ^o	3 ^s 93 ^s	0 ^s 24 ^s	60 ^o 9 ^o	16 ^s 50 ^s	0 ^s 70 ^s	41 ^o 9 ^o
11	11 ^s 46 ^s	0 ^s 31 ^s	46 ^o 8 ^o	4 ^s 17 ^s	0 ^s 28 ^s	61 ^o 9 ^o	17 ^s 20 ^s	0 ^s 83 ^s	38 ^o 7 ^o
21	11 ^s 77 ^s	0 ^s 33 ^s	47 ^o 6 ^o	4 ^s 45 ^s	0 ^s 31 ^s	63 ^o 1 ^o	18 ^s 03 ^s	0 ^s 93 ^s	35 ^o 8 ^o
31	12 ^s 10 ^s	0 ^s 34 ^s	48 ^o 7 ^o	4 ^s 76 ^s	0 ^s 32 ^s	64 ^o 7 ^o	18 ^s 96 ^s	1 ^s 02 ^s	33 ^o 3 ^o
June 10	12 ^s 44 ^s	0 ^s 35 ^s	50 ^o 1 ^o	5 ^s 08 ^s	0 ^s 33 ^s	66 ^o 4 ^o	19 ^s 98 ^s	1 ^s 03 ^s	31 ^o 3 ^o
20	12 ^s 79 ^s	0 ^s 35 ^s	51 ^o 9 ^o	5 ^s 41 ^s	0 ^s 33 ^s	68 ^o 4 ^o	21 ^s 06 ^s	1 ^s 11 ^s	29 ^o 7 ^o
30	13 ^s 14 ^s	0 ^s 34 ^s	54 ^o 0 ^o	5 ^s 74 ^s	0 ^s 32 ^s	70 ^o 5 ^o	22 ^s 17 ^s	1 ^s 11 ^s	28 ^o 7 ^o
July 10	13 ^s 48 ^s	0 ^s 33 ^s	56 ^o 2 ^o	6 ^s 06 ^s	0 ^s 30 ^s	72 ^o 7 ^o	23 ^s 28 ^s	1 ^s 09 ^s	28 ^o 3 ^o
20	13 ^s 81 ^s	0 ^s 29 ^s	58 ^o 7 ^o	6 ^s 36 ^s	0 ^s 28 ^s	74 ^o 9 ^o	24 ^s 37 ^s	1 ^s 02 ^s	28 ^o 4 ^o
30	14 ^s 10 ^s	0 ^s 26 ^s	61 ^o 2 ^o	6 ^s 64 ^s	0 ^s 25 ^s	77 ^o 1 ^o	25 ^s 39 ^s	0 ^s 94 ^s	29 ^o 1 ^o
Aug. 9	14 ^s 36 ^s	0 ^s 23 ^s	63 ^o 8 ^o	6 ^s 89 ^s	0 ^s 22 ^s	79 ^o 2 ^o	26 ^s 33 ^s	0 ^s 81 ^s	30 ^o 4 ^o
19	14 ^s 59 ^s	0 ^s 18 ^s	66 ^o 3 ^o	7 ^s 11 ^s	0 ^s 18 ^s	81 ^o 2 ^o	27 ^s 14 ^s	0 ^s 66 ^s	32 ^o 4 ^o
29	14 ^s 77 ^s	0 ^s 15 ^s	68 ^o 8 ^o	7 ^s 29 ^s	0 ^s 15 ^s	83 ^o 1 ^o	27 ^s 80 ^s	0 ^s 50 ^s	34 ^o 4 ^o
Sept. 8	14 ^s 92 ^s	0 ^s 10 ^s	71 ^o 2 ^o	7 ^s 44 ^s	0 ^s 10 ^s	84 ^o 7 ^o	28 ^s 30 ^s	0 ^s 32 ^s	36 ^o 4 ^o
18	15 ^s 02 ^s	0 ^s 06 ^s	73 ^o 4 ^o	7 ^s 54 ^s	0 ^s 06 ^s	86 ^o 2 ^o	28 ^s 62 ^s	0 ^s 12 ^s	39 ^o 4 ^o
28	15 ^s 08 ^s	0 ^s 03 ^s	75 ^o 4 ^o	7 ^s 60 ^s	0 ^s 03 ^s	87 ^o 5 ^o	28 ^s 74 ^s	0 ^s 07 ^s	42 ^o 4 ^o
Oct. 8	15 ^s 11 ^s	0 ^s 01 ^s	77 ^o 3 ^o	7 ^s 63 ^s	0 ^s 01 ^s	88 ^o 5 ^o	28 ^s 67 ^s	0 ^s 27 ^s	45 ^o 4 ^o
18	15 ^s 10 ^s	0 ^s 04 ^s	78 ^o 8 ^o	7 ^s 64 ^s	0 ^s 03 ^s	89 ^o 3 ^o	28 ^s 40 ^s	0 ^s 45 ^s	48 ^o 4 ^o
28	15 ^s 06 ^s	0 ^s 06 ^s	80 ^o 1 ^o	7 ^s 61 ^s	0 ^s 05 ^s	89 ^o 9 ^o	27 ^s 95 ^s	0 ^s 60 ^s	51 ^o 4 ^o
Nov. 7	15 ^s 00 ^s	0 ^s 09 ^s	81 ^o 2 ^o	7 ^s 56 ^s	0 ^s 07 ^s	90 ^o 2 ^o	27 ^s 35 ^s	0 ^s 74 ^s	53 ^o 4 ^o
17	14 ^s 91 ^s	0 ^s 11 ^s	81 ^o 9 ^o	7 ^s 49 ^s	0 ^s 09 ^s	90 ^o 3 ^o	26 ^s 61 ^s	0 ^s 85 ^s	55 ^o 4 ^o
27	14 ^s 80 ^s	0 ^s 11 ^s	82 ^o 3 ^o	7 ^s 40 ^s	0 ^s 09 ^s	90 ^o 2 ^o	25 ^s 76 ^s	0 ^s 93 ^s	57 ^o 4 ^o
Dec. 7	14 ^s 69 ^s	0 ^s 13 ^s	82 ^o 4 ^o	7 ^s 31 ^s	0 ^s 11 ^s	89 ^o 9 ^o	24 ^s 83 ^s	0 ^s 97 ^s	58 ^o 4 ^o
17	14 ^s 56 ^s	0 ^s 13 ^s	82 ^o 2 ^o	7 ^s 20 ^s	0 ^s 11 ^s	89 ^o 5 ^o	23 ^s 86 ^s	0 ^s 97 ^s	58 ^o 8 ^o
27	14 ^s 43 ^s	0 ^s 13 ^s	81 ^o 6 ^o	7 ^s 09 ^s	0 ^s 11 ^s	88 ^o 9 ^o	22 ^s 89 ^s	0 ^s 96 ^s	58 ^o 2 ^o
37	14 ^s 30 ^s	0 ^s 13 ^s	80 ^o 8 ^o	6 ^s 98 ^s	0 ^s 11 ^s	88 ^o 1 ^o	21 ^s 93 ^s	0 ^s 96 ^s	57 ^o 2 ^o

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α Cassiopeæ.		β Ceti.		θ^1 Ceti.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. South.
	^h ^m 0 31	[°] ['] 55 39	^h ^m 0 35	[°] ['] 18 51	^h ^m 1 16	[°] ['] 8 59
Jan. 1	31 ^s 32 ^s	73 ^h 1 ^h	37 ^s 07 ^s	37 ^h 5 ^h	5 ^s 61 ^s	75 ^h 2 ^h
11	31 ^s 05 ^s 0 ^s 27	72 ^h 6 ^h 0 ^s 5	36 ^s 95 ^s 0 ^s 12	37 ^h 8 ^h 0 ^s 3	5 ^s 49 ^s 0 ^s 12	75 ^h 9 ^h 0 ^s 7
21	30 ^s 79 ^s 0 ^s 26	71 ^h 6 ^h 1 ^s 0	36 ^s 83 ^s 0 ^s 12	38 ^h 0 ^h 0 ^s 2	5 ^s 37 ^s 0 ^s 12	76 ^h 3 ^h 0 ^s 4
31	30 ^s 54 ^s 0 ^s 25	70 ^h 2 ^h 1 ^s 4	36 ^s 73 ^s 0 ^s 10	37 ^h 9 ^h 0 ^s 1	5 ^s 25 ^s 0 ^s 12	76 ^h 7 ^h 0 ^s 4
Feb. 10	0 ^s 23	1 ^h 8	0 ^s 10	0 ^h 4	0 ^s 11	0 ^h 1
20	30 ^s 31 ^s 0 ^s 18	68 ^h 4 ^h 2 ^s 2	36 ^s 63 ^s 0 ^s 07	37 ^h 5 ^h 0 ^s 7	5 ^s 14 ^s 0 ^s 10	76 ^h 8 ^h 0 ^s 2
Mar. 2	30 ^s 13 ^s 0 ^s 13	66 ^h 2 ^h 2 ^s 4	36 ^s 56 ^s 0 ^s 06	36 ^h 8 ^h 0 ^s 9	5 ^s 04 ^s 0 ^s 08	76 ^h 6 ^h 0 ^s 3
12	30 ^s 00 ^s 0 ^s 07	63 ^h 8 ^h 2 ^s 4	36 ^s 50 ^s 0 ^s 02	35 ^h 9 ^h 1 ^s 2	4 ^s 96 ^s 0 ^s 06	76 ^h 3 ^h 0 ^s 6
22	29 ^s 93 ^s 0 ^s 01	61 ^h 4 ^h 2 ^s 5	36 ^s 48 ^s 0 ^s 01	34 ^h 7 ^h 1 ^s 5	4 ^s 90 ^s 0 ^s 02	75 ^h 7 ^h 0 ^s 8
Apr. 1	29 ^s 92 ^s 0 ^s 08	58 ^h 9 ^h 2 ^s 6	36 ^s 49 ^s 0 ^s 05	33 ^h 2 ^h 1 ^s 6	4 ^s 88 ^s 0 ^s 01	74 ^h 9 ^h 1 ^s 1
11	30 ^s 00 ^s 0 ^s 15	56 ^h 3 ^h 2 ^s 2	36 ^s 54 ^s 0 ^s 10	31 ^h 6 ^h 2 ^s 1	4 ^s 89 ^s 0 ^s 05	73 ^h 8 ^h 1 ^s 4
21	30 ^s 15 ^s 0 ^s 22	54 ^h 1 ^h 1 ^s 8	36 ^s 64 ^s 0 ^s 14	29 ^h 5 ^h 2 ^s 3	4 ^s 94 ^s 0 ^s 09	72 ^h 4 ^h 1 ^s 5
May 1	30 ^s 37 ^s 0 ^s 29	52 ^h 3 ^h 1 ^s 5	36 ^s 78 ^s 0 ^s 18	27 ^h 3 ^h 2 ^s 2	5 ^s 03 ^s 0 ^s 15	70 ^h 9 ^h 1 ^s 8
11	30 ^s 66 ^s 0 ^s 36	50 ^h 8 ^h 1 ^s 1	36 ^s 96 ^s 0 ^s 22	25 ^h 1 ^h 2 ^s 4	5 ^s 18 ^s 0 ^s 18	69 ^h 1 ^h 1 ^s 9
21	31 ^s 02 ^s 0 ^s 40	49 ^h 7 ^h 0 ^s 6	37 ^s 18 ^s 0 ^s 25	22 ^h 7 ^h 2 ^s 4	5 ^s 36 ^s 0 ^s 22	67 ^h 2 ^h 2 ^s 1
31	31 ^s 42 ^s 0 ^s 45	49 ^h 1 ^h 0 ^s 1	37 ^s 43 ^s 0 ^s 28	20 ^h 3 ^h 2 ^s 4	5 ^s 58 ^s 0 ^s 26	65 ^h 1 ^h 2 ^s 2
June 10	31 ^s 87 ^s 0 ^s 47	49 ^h 0 ^h 0 ^s 4	37 ^s 71 ^s 0 ^s 31	17 ^h 9 ^h 2 ^s 3	5 ^s 84 ^s 0 ^s 28	62 ^h 9 ^h 2 ^s 2
20	32 ^s 34 ^s 0 ^s 49	49 ^h 4 ^h 0 ^s 9	38 ^s 02 ^s 0 ^s 32	15 ^h 6 ^h 2 ^s 3	6 ^s 12 ^s 0 ^s 30	60 ^h 7 ^h 2 ^s 2
30	32 ^s 83 ^s 0 ^s 50	50 ^h 3 ^h 1 ^s 4	38 ^s 34 ^s 0 ^s 33	13 ^h 3 ^h 2 ^s 1	6 ^s 42 ^s 0 ^s 32	58 ^h 5 ^h 2 ^s 2
July 10	33 ^s 33 ^s 0 ^s 48	51 ^h 7 ^h 1 ^s 8	38 ^s 67 ^s 0 ^s 33	11 ^h 2 ^h 1 ^s 8	6 ^s 74 ^s 0 ^s 31	56 ^h 3 ^h 2 ^s 0
20	33 ^s 81 ^s 0 ^s 47	53 ^h 5 ^h 2 ^s 1	39 ^s 00 ^s 0 ^s 32	9 ^h 4 ^h 1 ^s 6	7 ^s 05 ^s 0 ^s 32	54 ^h 3 ^h 1 ^s 9
30	34 ^s 28 ^s 0 ^s 43	55 ^h 6 ^h 2 ^s 5	39 ^s 32 ^s 0 ^s 30	7 ^h 8 ^h 1 ^s 3	7 ^s 37 ^s 0 ^s 31	52 ^h 4 ^h 1 ^s 6
Aug. 9	34 ^s 71 ^s 0 ^s 39	58 ^h 1 ^h 2 ^s 8	39 ^s 62 ^s 0 ^s 28	6 ^h 5 ^h 0 ^s 9	7 ^s 68 ^s 0 ^s 28	50 ^h 8 ^h 1 ^s 3
19	35 ^s 10 ^s 0 ^s 35	60 ^h 9 ^h 3 ^s 0	39 ^s 90 ^s 0 ^s 24	5 ^h 6 ^h 0 ^s 6	7 ^s 96 ^s 0 ^s 27	49 ^h 5 ^h 1 ^s 1
29	35 ^s 45 ^s 0 ^s 30	63 ^h 9 ^h 3 ^s 2	40 ^s 14 ^s 0 ^s 22	5 ^h 0 ^h 0 ^s 2	8 ^s 23 ^s 0 ^s 23	48 ^h 4 ^h 0 ^s 8
Sept. 8	35 ^s 75 ^s 0 ^s 24	67 ^h 1 ^h 3 ^s 3	40 ^s 36 ^s 0 ^s 17	4 ^h 8 ^h 0 ^s 1	8 ^s 46 ^s 0 ^s 21	47 ^h 6 ^h 0 ^s 4
18	35 ^s 99 ^s 0 ^s 19	70 ^h 4 ^h 3 ^s 2	40 ^s 53 ^s 0 ^s 13	4 ^h 9 ^h 0 ^s 4	8 ^s 67 ^s 0 ^s 17	47 ^h 2 ^h 0 ^s 1
28	36 ^s 18 ^s 0 ^s 12	73 ^h 6 ^h 3 ^s 2	40 ^s 66 ^s 0 ^s 10	5 ^h 3 ^h 0 ^s 7	8 ^s 84 ^s 0 ^s 14	47 ^h 1 ^h 0 ^s 1
Oct. 8	36 ^s 30 ^s 0 ^s 07	76 ^h 8 ^h 3 ^s 2	40 ^s 76 ^s 0 ^s 05	6 ^h 0 ^h 1 ^s 0	8 ^s 98 ^s 0 ^s 09	47 ^h 2 ^h 0 ^s 5
18	36 ^s 37 ^s 0 ^s 02	80 ^h 0 ^h 3 ^s 0	40 ^s 81 ^s 0 ^s 03	7 ^h 0 ^h 1 ^s 2	9	47 ^h 7 ^h 0 ^s 6
28	36 ^s 39 ^s 0 ^s 04	83 ^h 0 ^h 2 ^s 7	40 ^s 84 ^s 0 ^s 01	8 ^h 2 ^h 1 ^s 3		18 ^h 3 ^h 0 ^s 9
Nov. 7	36 ^s 35 ^s 0 ^s 08	85 ^h 7 ^h 2 ^s 4	40 ^s 83 ^s 0 ^s 04	9 ^h 5 ^h 1 ^s 3		1 ^h 2 ^h 1 ^s 0
17	36 ^s 27 ^s 0 ^s 13	88 ^h 1 ^h 2 ^s 1	40 ^s 79 ^s 0 ^s 06	10 ^h 8 ^h 1 ^s 3		1 ^h 2 ^h 1 ^s 0
27	36 ^s 14 ^s 0 ^s 18	90 ^h 2 ^h 1 ^s 8	40 ^s 73 ^s 0 ^s 09	12 ^h 1 ^h 1 ^s 3		2 ^h 1 ^h 1 ^s 0
Dec. 7	35 ^s 96 ^s 0 ^s 21	92 ^h 0 ^h 1 ^s 2	40 ^s 64 ^s 0 ^s 10	13 ^h 4 ^h 1 ^s 1		3 ^h 1 ^h 1 ^s 0
17	35 ^s 75 ^s 0 ^s 23	93 ^h 2 ^h 0 ^s 8	40 ^s 54 ^s 0 ^s 11	14 ^h 5 ^h 0 ^s 9		1 ^h 1 ^h 1 ^s 0
27	35 ^s 52 ^s 0 ^s 25	94 ^h 0 ^h 0 ^s 3	40 ^s 43 ^s 0 ^s 12	15 ^h 4 ^h 0 ^s 0		
37	35 ^s 27 ^s 0 ^s 27	94 ^h 3 ^h 0 ^s 3	40 ^s 31 ^s 0 ^s 12	16 ^h 2 ^h 0 ^s 0		
	35 ^s 00 ^s	94 ^h 0 ^h 0 ^s 3	40 ^s 19 ^s	16 ^h 8 ^h 0 ^s 0		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α Eridani. (Achernar)		α ARIETIS.		γ Ceti.	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 1 ^m 31	^o 58 ⁱ 2	^h 1 ^m 58	^o 22 ⁱ 42	^h 2 ^m 35	^o 2 ⁱ 33
Jan. 1	48° 83' ^s	57° 6' ["]	14° 37' ^s	40° 0' ["]	5° 44' ^s	49° 9' ["]
11	48° 50' 0 ^{.33}	57° 9' 0 ^{.3}	14° 25' 0 ^{.12}	39° 6' 0 ^{.4}	5° 35' 0 ^{.09}	49° 2' 0 ^{.7}
21	48° 16' 0 ^{.34}	57° 6' 0 ^{.3}	14° 12' 0 ^{.13}	39° 1' 0 ^{.5}	5° 24' 0 ^{.11}	48° 6' 0 ^{.6}
31	47° 84' 0 ^{.32}	56° 7' 0 ^{.9}	13° 98' 0 ^{.14}	38° 5' 0 ^{.6}	5° 11' 0 ^{.13}	48° 0' 0 ^{.6}
Feb. 10	0 ^{.31}	1° 3'	0 ^{.13}	0° 8'	0 ^{.14}	0° 4'
20	47° 53' 0 ^{.29}	55° 4' 1° 9'	13° 85' 0 ^{.14}	37° 7' 0° 8'	4° 97' 0 ^{.13}	47° 6' 0° 4'
Mar. 2	47° 24' 0 ^{.25}	53° 5' 2° 3'	13° 71' 0 ^{.12}	36° 9' 1° 0'	4° 84' 0 ^{.13}	47° 2' 0° 2'
12	46° 99' 0 ^{.20}	51° 2' 2° 7'	13° 59' 0 ^{.09}	35° 9' 0° 9'	4° 71' 0 ^{.12}	47° 0' 0° 1'
	46° 79' 0 ^{.15}	48° 5' 3° 0'	13° 50' 0 ^{.07}	35° 0' 0° 9'	4° 59' 0 ^{.09}	46° 9' 0° 1'
22	46° 64' 0 ^{.09}	45° 5' 3° 3'	13° 43' 0 ^{.03}	34° 1' 0° 7'	4° 50' 0 ^{.06}	47° 0' 0° 4'
Apr. 1	46° 55' 0 ^{.02}	42° 2' 3° 5'	13° 40' 0 ^{.03}	33° 4' 0° 6'	4° 44' 0 ^{.02}	47° 4' 0° 3'
11	46° 53' 0 ^{.05}	38° 7' 3° 9'	13° 43' 0 ^{.06}	32° 8' 0° 5'	4° 42' 0 ^{.02}	47° 9' 0° 7'
21	46° 58' 0 ^{.13}	34° 8' 3° 6'	13° 49' 0 ^{.12}	32° 3' 0° 1'	4° 44' 0 ^{.07}	48° 6' 1° 0'
May 1	46° 71' 0 ^{.20}	31° 2' 3° 6'	13° 61' 0 ^{.17}	32° 2' 0° 0'	4° 51' 0 ^{.12}	49° 6' 1° 2'
11	46° 91' 0 ^{.25}	27° 6' 3° 5'	13° 78' 0 ^{.21}	32° 2' 0° 4'	4° 63' 0 ^{.16}	50° 8' 1° 3'
21	47° 16' 0 ^{.31}	24° 1' 3° 2'	13° 99' 0 ^{.25}	32° 6' 0° 7'	4° 79' 0 ^{.20}	52° 1' 1° 6'
31	47° 47' 0 ^{.38}	20° 9' 3° 0'	14° 24' 0 ^{.28}	33° 3' 0° 9'	4° 99' 0 ^{.23}	53° 7' 1° 6'
June 10	47° 85' 0 ^{.42}	17° 9' 2° 6'	14° 52' 0 ^{.32}	34° 2' 1° 1'	5° 22' 0 ^{.27}	55° 3' 1° 8'
20	48° 27' 0 ^{.45}	15° 3' 2° 2'	14° 84' 0 ^{.33}	35° 3' 1° 4'	5° 49' 0 ^{.29}	57° 1' 1° 8'
30	48° 72' 0 ^{.47}	13° 1' 1° 7'	15° 17' 0 ^{.33}	36° 7' 1° 6'	5° 78' 0 ^{.30}	58° 9' 1° 9'
July 10	49° 19' 0 ^{.48}	11° 4' 1° 2'	15° 50' 0 ^{.35}	38° 3' 1° 6'	6° 08' 0 ^{.31}	60° 8' 1° 7'
20	49° 67' 0 ^{.48}	10° 2' 0° 7'	15° 85' 0 ^{.33}	39° 9' 1° 8'	6° 39' 0 ^{.32}	62° 5' 1° 7'
30	50° 15' 0 ^{.45}	9° 5' 0° 1'	16° 18' 0 ^{.33}	41° 7' 1° 9'	6° 71' 0 ^{.30}	64° 2' 1° 6'
Aug. 9	50° 60' 0 ^{.43}	9° 4' 0° 5'	16° 51' 0 ^{.30}	43° 6' 1° 8'	7° 01' 0 ^{.30}	65° 8' 1° 4'
19	51° 03' 0 ^{.38}	9° 9' 1° 0'	16° 81' 0 ^{.28}	45° 4' 1° 8'	7° 31' 0 ^{.28}	67° 2' 1° 1'
29	51° 41' 0 ^{.34}	10° 9' 1° 6'	17° 09' 0 ^{.26}	47° 2' 1° 7'	7° 59' 0 ^{.26}	68° 3' 0° 9'
Sept. 8	51° 75' 0 ^{.27}	12° 5' 2° 0'	17° 35' 0 ^{.22}	48° 9' 1° 6'	7° 85' 0 ^{.23}	69° 2' 0° 6'
18	52° 02' 0 ^{.20}	14° 5' 2° 3'	17° 57' 0 ^{.19}	50° 5' 1° 5'	8° 08' 0 ^{.21}	69° 8' 0° 4'
28	52° 22' 0 ^{.13}	16° 8' 2° 7'	17° 76' 0 ^{.16}	52° 0' 1° 4'	8° 29' 0 ^{.18}	70° 2' 0° 1'
Oct. 8	52° 35' 0 ^{.07}	19° 5' 2° 9'	17° 92' 0 ^{.13}	53° 4' 1° 1'	8° 47' 0 ^{.15}	70° 3' 0° 1'
18	52° 42' 0 ^{.01}	22° 4' 2° 9'	18° 05' 0 ^{.09}	54° 5' 1° 0'	8° 62' 0 ^{.12}	70° 2' 0° 3'
28	52° 41' 0 ^{.07}	25° 3' 2° 9'	18° 14' 0 ^{.05}	55° 5' 0° 8'	8° 74' 0 ^{.09}	69° 9' 0° 5'
Nov. 7	52° 34' 0 ^{.14}	28° 2' 2° 7'	18° 19' 0 ^{.05}	56° 3' 0° 7'	8° 83' 0 ^{.06}	69° 4' 0° 6'
17	52° 20' 0 ^{.20}	30° 9' 2° 5'	18° 24' 0 ^{.00}	57° 0' 0° 4'	8° 89' 0 ^{.03}	68° 8' 0° 7'
27	52° 00' 0 ^{.24}	33° 4' 2° 1'	18° 24' 0 ^{.03}	57° 4' 0° 3'	8° 92' 0 ^{.00}	68° 1' 0° 8'
Dec. 7	51° 76' 0 ^{.28}	35° 5' 1° 6'	18° 21' 0 ^{.06}	57° 7' 0° 1'	8° 92' 0 ^{.03}	67° 3' 0° 8'
17	51° 48' 0 ^{.31}	37° 1' 1° 1'	18° 15' 0 ^{.08}	57° 8' 0° 1'	8° 89' 0 ^{.06}	66° 5' 0° 8'
27	51° 17' 0 ^{.32}	38° 2' 0° 6'	18° 07' 0 ^{.10}	57° 7' 0° 2'	8° 83' 0 ^{.08}	65° 7' 0° 7'
37	50° 85' 0 ^{.32}	38° 8' 0° 6'	17° 97' 0 ^{.10}	57° 5' 0° 2'	8° 75' 0 ^{.08}	65° 0' 0° 7'

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α CETI.		α PERSEI.		η Tauri.	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 2 ^m 53	^o 3 27	^h 3 13	^o 49 17	^h 3 38 ^m	^o 23 36
Jan. 1	59 ^s 90 ^s	49 ^{''} 7 ^{''}	2 ^s 09 ^s	39 ^{''} 1 ^{''}	4 ^s 39 ^s	43 ^{''} 3 ^{''}
11	59 ^s 81 ^s 0 ^{''} 09	49 ^{''} 0 ^{''} 0 ^{''} 7	1 ^s 95 ^s 0 ^{''} 14	40 ^{''} 0 ^{''} 0 ^{''} 9	4 ^s 33 ^s 0 ^{''} 06	43 ^{''} 3 ^{''} 0 ^{''} 0
21	59 ^s 71 ^s 0 ^{''} 10	48 ^{''} 3 ^{''} 0 ^{''} 7	1 ^s 77 ^s 0 ^{''} 18	40 ^{''} 6 ^{''} 0 ^{''} 6	4 ^s 23 ^s 0 ^{''} 10	43 ^{''} 2 ^{''} 0 ^{''} 1
31	59 ^s 58 ^s 0 ^{''} 13	47 ^{''} 8 ^{''} 0 ^{''} 5	1 ^s 55 ^s 0 ^{''} 22	40 ^{''} 8 ^{''} 0 ^{''} 2	4 ^s 11 ^s 0 ^{''} 12	43 ^{''} 0 ^{''} 0 ^{''} 2
	0 ^{''} 14	0 ^{''} 5	0 ^{''} 23	0 ^{''} 2	0 ^{''} 15	0 ^{''} 3
Feb. 10	59 ^s 44 ^s	47 ^{''} 3 ^{''}	1 ^s 32 ^s	40 ^{''} 6 ^{''}	3 ^s 96 ^s	42 ^{''} 7 ^{''}
20	59 ^s 30 ^s 0 ^{''} 14	46 ^{''} 9 ^{''} 0 ^{''} 4	1 ^s 07 ^s 0 ^{''} 25	40 ^{''} 0 ^{''} 6	3 ^s 80 ^s 0 ^{''} 16	42 ^{''} 3 ^{''} 0 ^{''} 4
Mar. 2	59 ^s 16 ^s 0 ^{''} 14	46 ^{''} 7 ^{''} 0 ^{''} 2	0 ^s 83 ^s 0 ^{''} 24	39 ^{''} 1 ^{''} 0 ^{''} 9	3 ^s 63 ^s 0 ^{''} 17	41 ^{''} 8 ^{''} 0 ^{''} 5
12	59 ^s 03 ^s 0 ^{''} 13	46 ^{''} 6 ^{''} 0 ^{''} 1	0 ^s 61 ^s 0 ^{''} 22	37 ^{''} 9 ^{''} 1 ^{''} 2	3 ^s 47 ^s 0 ^{''} 16	41 ^{''} 2 ^{''} 0 ^{''} 6
	0 ^{''} 10	0 ^{''} 0	0 ^{''} 19	1 ^{''} 5	0 ^{''} 14	0 ^{''} 6
22	58 ^s 93 ^s 0 ^{''} 08	46 ^{''} 6 ^{''} 0 ^{''} 2	0 ^s 42 ^s 0 ^{''} 15	36 ^{''} 4 ^{''} 1 ^{''} 6	3 ^s 33 ^s 0 ^{''} 11	40 ^{''} 6 ^{''} 0 ^{''} 6
Apr. 1	58 ^s 85 ^s 0 ^{''} 03	46 ^{''} 8 ^{''} 0 ^{''} 5	0 ^s 27 ^s 0 ^{''} 08	34 ^{''} 8 ^{''} 1 ^{''} 8	3 ^s 22 ^s 0 ^{''} 08	40 ^{''} 0 ^{''} 0 ^{''} 6
11	58 ^s 82 ^s 0 ^{''} 00	47 ^{''} 3 ^{''} 0 ^{''} 6	0 ^s 19 ^s 0 ^{''} 03	33 ^{''} 0 ^{''} 1 ^{''} 8	3 ^s 14 ^s 0 ^{''} 03	39 ^{''} 4 ^{''} 0 ^{''} 5
21	58 ^s 82 ^s	47 ^{''} 9 ^{''}	0 ^s 16 ^s	31 ^{''} 2 ^{''} 1 ^{''} 8	3 ^s 11 ^s 0 ^{''} 03	38 ^{''} 9 ^{''}
	0 ^{''} 05	0 ^{''} 8	0 ^{''} 04	1 ^{''} 7	0 ^{''} 01	0 ^{''} 4
May 1	58 ^s 87 ^s 0 ^{''} 10	48 ^{''} 7 ^{''} 1 ^{''} 2	* 0 ^s 20 ^s 0 ^{''} 12	29 ^{''} 5 ^{''} 1 ^{''} 8	3 ^s 12 ^s 0 ^{''} 06	38 ^{''} 5 ^{''} 0 ^{''} 2
11	58 ^s 97 ^s 0 ^{''} 14	49 ^{''} 9 ^{''} 1 ^{''} 3	0 ^s 32 ^s 0 ^{''} 19	27 ^{''} 7 ^{''} 1 ^{''} 4	* 3 ^s 18 ^s 0 ^{''} 13	38 ^{''} 3 ^{''} 0 ^{''} 1
21	59 ^s 11 ^s 0 ^{''} 18	51 ^{''} 2 ^{''} 1 ^{''} 4	0 ^s 51 ^s 0 ^{''} 24	26 ^{''} 3 ^{''} 1 ^{''} 2	3 ^s 31 ^s 0 ^{''} 17	38 ^{''} 2 ^{''} 0 ^{''} 1
31	59 ^s 29 ^s	52 ^{''} 6 ^{''}	0 ^s 75 ^s	25 ^{''} 1 ^{''}	3 ^s 48 ^s	38 ^{''} 3 ^{''}
	0 ^{''} 23	1 ^{''} 6	0 ^{''} 30	0 ^{''} 9	0 ^{''} 21	0 ^{''} 3
June 10	59 ^s 52 ^s 0 ^{''} 25	54 ^{''} 2 ^{''} 1 ^{''} 6	1 ^s 05 ^s 0 ^{''} 36	24 ^{''} 2 ^{''} 0 ^{''} 6	3 ^s 69 ^s 0 ^{''} 24	38 ^{''} 6 ^{''} 0 ^{''} 5
20	59 ^s 77 ^s 0 ^{''} 28	55 ^{''} 8 ^{''} 1 ^{''} 8	1 ^s 41 ^s 0 ^{''} 39	23 ^{''} 6 ^{''} 0 ^{''} 3	3 ^s 93 ^s 0 ^{''} 28	39 ^{''} 1 ^{''} 0 ^{''} 7
30	60 ^s 05 ^s 0 ^{''} 30	57 ^{''} 6 ^{''} 1 ^{''} 8	1 ^s 80 ^s 0 ^{''} 42	23 ^{''} 3 ^{''} 0 ^{''} 1	4 ^s 21 ^s 0 ^{''} 31	39 ^{''} 8 ^{''} 0 ^{''} 9
July 10	60 ^s 35 ^s 0 ^{''} 31	59 ^{''} 4 ^{''} 1 ^{''} 7	2 ^s 22 ^s 0 ^{''} 44	23 ^{''} 4 ^{''} 0 ^{''} 4	4 ^s 52 ^s 0 ^{''} 32	40 ^{''} 7 ^{''} 1 ^{''} 0
20	60 ^s 66 ^s 0 ^{''} 31	61 ^{''} 1 ^{''} 1 ^{''} 6	2 ^s 66 ^s 0 ^{''} 45	23 ^{''} 8 ^{''} 0 ^{''} 7	4 ^s 84 ^s 0 ^{''} 34	41 ^{''} 7 ^{''} 1 ^{''} 1
30	60 ^s 97 ^s 0 ^{''} 31	62 ^{''} 7 ^{''} 1 ^{''} 5	3 ^s 11 ^s 0 ^{''} 45	24 ^{''} 5 ^{''} 1 ^{''} 0	5 ^s 18 ^s 0 ^{''} 33	42 ^{''} 8 ^{''} 1 ^{''} 1
Aug. 9	61 ^s 28 ^s 0 ^{''} 30	64 ^{''} 2 ^{''} 1 ^{''} 4	3 ^s 56 ^s 0 ^{''} 44	25 ^{''} 5 ^{''} 1 ^{''} 3	5 ^s 51 ^s 0 ^{''} 34	43 ^{''} 9 ^{''} 1 ^{''} 1
19	61 ^s 58 ^s	65 ^{''} 6 ^{''} 1 ^{''} 1	4 ^s 00 ^s 0 ^{''} 43	26 ^{''} 8 ^{''} 1 ^{''} 5	5 ^s 85 ^s 0 ^{''} 32	45 ^{''} 0 ^{''} 1 ^{''} 2
29	61 ^s 86 ^s 0 ^{''} 28	66 ^{''} 7 ^{''} 0 ^{''} 9	4 ^s 43 ^s 0 ^{''} 41	28 ^{''} 3 ^{''} 1 ^{''} 7	6 ^s 17 ^s 0 ^{''} 32	46 ^{''} 2 ^{''} 1 ^{''} 1
Sept. 8	62 ^s 14 ^s 0 ^{''} 24	67 ^{''} 6 ^{''} 0 ^{''} 6	4 ^s 84 ^s 0 ^{''} 39	30 ^{''} 0 ^{''} 1 ^{''} 8	6 ^s 49 ^s 0 ^{''} 30	47 ^{''} 3 ^{''} 1 ^{''} 1
18	62 ^s 38 ^s 0 ^{''} 22	68 ^{''} 2 ^{''} 0 ^{''} 4	5 ^s 23 ^s 0 ^{''} 35	31 ^{''} 8 ^{''} 2 ^{''} 0	6 ^s 79 ^s 0 ^{''} 28	48 ^{''} 4 ^{''} 1 ^{''} 0
28	62 ^s 60 ^s 0 ^{''} 20	68 ^{''} 6 ^{''} 0 ^{''} 2	5 ^s 58 ^s 0 ^{''} 32	33 ^{''} 8 ^{''} 2 ^{''} 1	7 ^s 07 ^s 0 ^{''} 25	49 ^{''} 4 ^{''} 0 ^{''} 9
Oct. 8	62 ^s 80 ^s 0 ^{''} 17	68 ^{''} 8 ^{''} 0 ^{''} 1	5 ^s 90 ^s 0 ^{''} 28	35 ^{''} 9 ^{''} 2 ^{''} 2	7 ^s 32 ^s 0 ^{''} 20	50 ^{''} 3 ^{''} 0 ^{''} 8
18	62 ^s 97 ^s 0 ^{''} 14	68 ^{''} 7 ^{''} 0 ^{''} 3	6 ^s 18 ^s 0 ^{''} 24	38 ^{''} 1 ^{''} 2 ^{''} 1	7 ^s 55 ^s	50 ^{''} 7 ^{''} 0 ^{''} 7
28	63 ^s 11 ^s 0 ^{''} 11	68 ^{''} 4 ^{''} 0 ^{''} 5	6 ^s 42 ^s 0 ^{''} 19	40 ^{''} 2 ^{''} 2 ^{''} 1	7 ^s 75 ^s	50 ^{''} 5 ^{''} 0 ^{''} 5
Nov. 7	63 ^s 22 ^s 0 ^{''} 07	67 ^{''} 9 ^{''} 0 ^{''} 7	6 ^s 61 ^s 0 ^{''} 14	42 ^{''} 3 ^{''} 2 ^{''} 1	7 ^s	
17	63 ^s 29 ^s 0 ^{''} 05	67 ^{''} 2 ^{''} 0 ^{''} 7	6 ^s 75 ^s 0 ^{''} 10	44 ^{''} 4 ^{''} 2 ^{''} 0		
27	63 ^s 34 ^s 0 ^{''} 02	66 ^{''} 5 ^{''} 0 ^{''} 8	6 ^s 85 ^s 0 ^{''} 03	46 ^{''} 4 ^{''} 1 ^{''} 8		
Dec. 7	63 ^s 36 ^s 0 ^{''} 02	65 ^{''} 7 ^{''} 0 ^{''} 8	6 ^s 88 ^s 0 ^{''} 01	48 ^{''} 2 ^{''} 1 ^{''} 6		
17	63 ^s 34 ^s 0 ^{''} 04	64 ^{''} 9 ^{''} 0 ^{''} 7	6 ^s 87 ^s 0 ^{''} 06	49 ^{''} 8 ^{''} 1 ^{''} 4		
27	63 ^s 30 ^s 0 ^{''} 07	64 ^{''} 2 ^{''} 0 ^{''} 8	6 ^s 81 ^s 0 ^{''} 12	51 ^{''} 2 ^{''} 1 ^{''} 0		
37	63 ^s 23 ^s	63 ^{''} 4 ^{''}	6 ^s 69 ^s	52 ^{''} 2 ^{''}		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	γ^1 Eridani.		α TAURI. (Aldebaran)		α AURIGÆ. (Capella)	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. N.
	^h 3 ^m 50	[°] 13 ['] 57	^h 4 ^m 26	[°] 16 ['] 11	^h 5 ^m 4	[°] 45 ['] 4
Jan. 1	38° 51' 0.07	49° 2' 1.5	50° 10' 0.03	11° 4' 0.3	59° 84' 0.01	55° 8'
11	38° 44' 0.10	50° 7' 1.1	50° 07' 0.07	11° 1' 0.3	59° 83' 0.06	57° 1'
21	38° 34' 0.13	51° 8' 0.9	50° 00' 0.10	10° 8' 0.3	59° 77' 0.12	58° 2'
31	38° 21' 0.15	52° 7' 0.7	49° 90' 0.13	10° 5' 0.3	59° 65' 0.17	59° 2'
Feb. 10	38° 06' 0.17	53° 4' 0.3	49° 77' 0.15	10° 2' 0.3	59° 48' 0.21	59° 9'
20	37° 89' 0.17	53° 7' 0.1	49° 62' 0.16	9° 9' 0.3	59° 27' 0.23	60° 3'
Mar. 2	37° 72' 0.17	53° 8' 0.3	49° 46' 0.17	9° 6' 0.3	59° 04' 0.24	60° 4'
12	37° 55' 0.15	53° 5' 0.5	49° 29' 0.15	9° 3' 0.3	58° 80' 0.24	60° 3'
22	37° 40' 0.13	53° 0' 0.8	49° 14' 0.14	9° 0' 0.2	58° 56' 0.21	59° 8'
Apr. 1	37° 27' 0.10	52° 2' 1.1	49° 00' 0.11	8° 8' 0.2	58° 35' 0.19	59° 0'
11	37° 17' 0.06	51° 1' 1.4	48° 89' 0.07	8° 6' 0.1	58° 16' 0.14	58° 1'
21	37° 11' 0.02	49° 7' 1.6	48° 82' 0.04	8° 5' 0.0	58° 02' 0.10	56° 9'
May 1	37° 09' 0.03	48° 1' 1.8	48° 78' 0.02	8° 5' 0.1	57° 92' 0.03	55° 6'
11	37° 12' 0.08	46° 3' 2.3	48° 80' 0.06	8° 6' 0.2	57° 89' 0.02	54° 2'
21	37° 20' 0.12	44° 0' 2.1	48° 86' 0.11	8° 8' 0.5	57° 91' 0.09	52° 8'
31	37° 32' 0.16	41° 9' 2.3	48° 97' 0.16	9° 3' 0.5	58° 00' 0.17	51° 4'
June 10	37° 48' 0.20	39° 6' 2.3	49° 13' 0.20	9° 8' 0.7	58° 17' 0.20	50° 0'
20	37° 68' 0.23	37° 3' 2.3	49° 33' 0.23	10° 5' 0.8	58° 37' 0.27	48° 9'
30	37° 91' 0.26	35° 0' 2.1	49° 56' 0.26	11° 3' 0.9	58° 64' 0.30	47° 8'
July 10	38° 17' 0.28	32° 9' 2.1	49° 82' 0.28	12° 2' 0.9	58° 94' 0.35	46° 9'
20	38° 45' 0.30	30° 8' 1.8	50° 10' 0.30	13° 1' 1.0	59° 29' 0.37	46° 3'
30	38° 75' 0.30	29° 0' 1.5	50° 40' 0.31	14° 1' 1.0	59° 66' 0.39	45° 8'
Aug. 9	39° 05' 0.30	27° 5' 1.3	50° 71' 0.32	15° 1' 0.9	60° 05' 0.42	45° 6'
19	39° 35' 0.30	26° 2' 0.8	51° 03' 0.32	16° 0' 0.8	60° 47' 0.42	45° 5'
29	39° 65' 0.29	25° 4' 0.5	51° 35' 0.31	16° 8' 0.8	60° 89' 0.42	45° 6'
Sept. 8	39° 94' 0.28	24° 9' 0.1	51° 66' 0.30	17° 6' 0.6	61° 31' 0.42	45° 9'
18	40° 22' 0.26	24° 8' 0.3	51° 96' 0.29	18° 2' 0.5	61° 73' 0.42	46° 4'
28	40° 48' 0.23	25° 1' 0.7	52° 25' 0.28	18° 7' 0.3	62° 15' 0.40	47° 1'
Oct. 8	40° 71' 0.21	25° 8' 1.1	52° 53' 0.26	19° 0' 0.2	62° 55' 0.38	47° 9'
18	40° 92' 0.18	26° 9' 1.3	52° 79' 0.23	19° 2' 0.0	62° 93' 0.36	48° 8'
28	41° 10' 0.16	28° 2' 1.6	53° 02' 0.21	19° 2' 0.0	63° 29' 0.33	49° 9'
Nov. 7	41° 26' 0.12	29° 8' 1.8	53° 23' 0.19	19° 2' 0.2	63° 62' 0.29	51° 0'
17	41° 38' 0.09	31° 6' 1.8	53° 42' 0.15	19° 0' 0.2	63° 91' 0.25	52° 3'
27	41° 47' 0.05	33° 4' 1.9	53° 57' 0.11	18° 8' 0.3	64° 16' 0.20	53° 7'
Dec. 7	41° 52' 0.02	35° 3' 1.8	53° 68' 0.08	18° 5' 0.3	64° 36' 0.15	55° 1'
17	41° 54' 0.02	37° 1' 1.7	53° 76' 0.03	18° 2' 0.3	64° 51' 0.08	56° 5'
27	41° 52' 0.06	38° 8' 1.6	53° 79' 0.00	17° 9' 0.3	64° 59' 0.03	57° 9'
37	41° 56' 0.06	40° 4' 1.6	53° 79' 0.00	17° 6' 0.3	64° 62' 0.03	59° 3'

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β ORIONIS. (Rigel)			β TAURI.			δ ORIONIS.		
	R. A.	Dec. South.		R. A.	Dec. North.		R. A.	Dec. South.	
	^h 5	^m 6	^o 8 23	^h 5 16	^m 28 28	^o 28	^h 5 23	^m 0 25	^o 0 25
Jan. 1	55° 89'	0° 01'	20° 0'	16° 99'	0° 01'	7° 8'	55° 14'	0° 01'	14° 4'
11	55° 88'	0° 05'	21° 6'	17° 00'	0° 03'	8° 3'	55° 15'	0° 03'	15° 7'
21	55° 83'	0° 09'	23° 0'	16° 97'	0° 08'	8° 7'	55° 12'	0° 07'	16° 8'
31	55° 74'	0° 12'	24° 1'	16° 89'	0° 12'	9° 0'	55° 05'	0° 11'	17° 7'
Feb. 10	55° 62'	0° 15'	25° 0'	16° 77'	0° 15'	9° 2'	54° 94'	0° 14'	18° 5'
20	55° 47'	0° 17'	25° 7'	16° 62'	0° 17'	9° 3'	54° 80'	0° 15'	19° 0'
Mar. 2	55° 30'	0° 17'	26° 2'	16° 45'	0° 18'	9° 2'	54° 65'	0° 17'	19° 5'
12	55° 13'	0° 18'	26° 3'	16° 27'	0° 19'	9° 1'	54° 48'	0° 17'	19° 7'
22	54° 95'	0° 16'	26° 2'	16° 08'	0° 17'	8° 8'	54° 31'	0° 16'	19° 7'
Apr. 1	54° 79'	0° 13'	25° 9'	15° 91'	0° 15'	8° 5'	54° 15'	0° 14'	19° 6'
11	54° 66'	0° 12'	25° 3'	15° 76'	0° 11'	8° 0'	54° 01'	0° 12'	19° 3'
21	54° 54'	0° 07'	24° 5'	15° 65'	0° 08'	7° 5'	53° 89'	0° 07'	18° 8'
May 1	54° 47'	0° 04'	23° 5'	15° 57'	0° 03'	7° 0'	53° 82'	0° 05'	18° 1'
11	54° 43'	0° 01'	22° 2'	15° 54'	0° 01'	6° 4'	53° 77'	0° 00'	17° 3'
21	54° 44'	0° 05'	20° 7'	15° 55'	0° 07'	6° 0'	53° 77'	0° 04'	16° 2'
31	54° 49'	0° 10'	19° 1'	15° 62'	0° 12'	5° 5'	53° 81'	0° 09'	15° 1'
June 10	54° 59'	0° 14'	17° 2'	15° 74'	0° 18'	5° 1'	53° 90'	0° 13'	13° 8'
20	54° 73'	0° 17'	15° 3'	15° 92'	0° 20'	4° 9'	54° 03'	0° 17'	12° 2'
30	54° 90'	0° 21'	13° 4'	16° 12'	0° 24'	4° 7'	54° 20'	0° 20'	10° 8'
July 10	55° 11'	0° 23'	11° 4'	16° 36'	0° 28'	4° 7'	54° 40'	0° 22'	9° 3'
20	55° 34'	0° 25'	9° 7'	16° 64'	0° 30'	4° 8'	54° 62'	0° 25'	7° 9'
30	55° 59'	0° 28'	8° 1'	16° 94'	0° 31'	5° 0'	54° 87'	0° 27'	6° 6'
Aug. 9	55° 87'	0° 28'	6° 6'	17° 25'	0° 33'	5° 2'	55° 14'	0° 28'	5° 4'
19	56° 15'	0° 29'	5° 3'	17° 58'	0° 34'	5° 5'	55° 42'	0° 29'	4° 3'
29	56° 44'	0° 30'	4° 4'	17° 92'	0° 34'	5° 8'	55° 71'	0° 29'	3° 5'
Sept. 8	56° 74'	0° 29'	3° 8'	18° 26'	0° 34'	6° 2'	56° 00'	0° 30'	2° 9'
18	57° 03'	0° 29'	3° 5'	18° 60'	0° 34'	6° 5'	56° 30'	0° 29'	2° 7'
28	57° 32'	0° 27'	3° 7'	18° 94'	0° 33'	6° 8'	56° 59'	0° 28'	2° 7'
Oct. 8	57° 59'	0° 26'	4° 2'	19° 27'	0° 31'	7° 1'	56° 87'	0° 28'	3° 1'
18	57° 85'	0° 25'	5° 0'	19° 58'	0° 30'	7° 4'			0° 6'
28	58° 10'	0° 22'	6° 2'	19° 88'	0° 28'	7° 7'			0° 9'
Nov. 7	58° 32'	0° 20'	7° 6'	20° 16'	0° 25'	8° 0'			1° 1'
17	58° 52'	0° 17'	9° 2'	20° 41'	0° 22'	8° 3'			0° 3'
27	58° 69'	0° 14'	11° 0'	20° 63'	0° 18'				
Dec. 7	58° 83'	0° 08'	12° 8'	20° 81'	0° 14'				
17	58° 91'	0° 06'	14° 6'	20° 95'	0° 11'				
27	58° 97'	0° 01'	16° 4'	21° 07'	0° 01'				
37	58° 98'		18° 1'	21° 18'					

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α Leporis.		ϵ ORIONIS.		α Columbæ.	
	R. A.	Dec. South.	R. A.	Dec. South.	R. A.	Dec. South.
	^h 5 ^m 25	[°] 17 ['] 56	^h 5 ^m 28	[°] 1 ['] 18	^h 5 ^m 33	[°] 34 ['] 0
Jan. 1	45° 17' ^s 0° 01'	25° 0' ["] 2° 1'	10° 87' ^s 0° 02'	26° 0' ["] 1° 3'	55° 77' ^s 0° 02'	42° 7' ["] 2° 2'
11	45° 16' ^s 0° 05'	27° 1' ["] 1° 8'	10° 89' ^s 0° 03'	27° 3' ["] 1° 1'	55° 75' ^s 0° 08'	45° 5' ["] 2° 2'
21	45° 11' ^s 0° 09'	28° 9' ["] 1° 6'	10° 86' ^s 0° 07'	28° 4' ["] 1° 0'	55° 67' ^s 0° 13'	47° 9' ["] 2° 2'
31	45° 02' ^s 0° 13'	30° 5' ["] 1° 3'	10° 79' ^s 0° 10'	29° 4' ["] 0° 8'	55° 54' ^s 0° 17'	50° 0' ["] 1° 1'
Feb. 10	44° 89' ^s 0° 15'	31° 8' ["] 0° 9'	10° 69' ^s 0° 14'	30° 2' ["] 0° 6'	55° 37' ^s 0° 20'	51° 7' ["] 1° 1'
20	44° 74' ^s 0° 18'	32° 7' ["] 0° 6'	10° 55' ^s 0° 15'	30° 8' ["] 0° 4'	55° 17' ^s 0° 22'	52° 9' ["] 0° 0'
Mar. 2	44° 56' ^s 0° 19'	33° 3' ["] 0° 3'	10° 40' ^s 0° 17'	31° 2' ["] 0° 3'	54° 95' ^s 0° 23'	53° 7' ["] 0° 0'
12	44° 37' ^s 0° 19'	33° 6' ["] 0° 1'	10° 23' ^s 0° 17'	31° 5' ["] 0° 0'	54° 72' ^s 0° 24'	54° 1' ["] 0° 0'
22	44° 18' ^s 0° 18'	33° 5' ["] 0° 4'	10° 06' ^s 0° 16'	31° 5' ["] 0° 1'	54° 48' ^s 0° 23'	54° 0' ["] 0° 0'
Apr. 1	44° 00' ^s 0° 16'	33° 1' ["] 0° 7'	9° 90' ^s 0° 15'	31° 4' ["] 0° 3'	54° 25' ^s 0° 21'	53° 5' ["] 0° 0'
11	43° 84' ^s 0° 14'	32° 4' ["] 1° 0'	9° 75' ^s 0° 11'	31° 1' ["] 0° 6'	54° 04' ^s 0° 18'	52° 6' ["] 1° 1'
21	43° 70' ^s 0° 10'	31° 4' ["] 1° 3'	9° 64' ^s 0° 09'	30° 5' ["] 0° 7'	53° 86' ^s 0° 15'	51° 2' ["] 1° 1'
May 1	43° 60' ^s 0° 07'	30° 1' ["] 1° 6'	9° 55' ^s 0° 04'	29° 8' ["] 0° 9'	53° 71' ^s 0° 11'	49° 5' ["] 2° 2'
11	43° 53' ^s 0° 02'	28° 5' ["] 1° 8'	9° 51' ^s 0° 01'	28° 9' ["] 1° 0'	53° 60' ^s 0° 06'	47° 5' ["] 2° 2'
21	43° 51' ^s 0° 02'	26° 7' ["] 2° 0'	9° 50' ^s 0° 04'	27° 9' ["] 1° 2'	53° 54' ^s 0° 01'	45° 1' ["] 2° 2'
31	43° 53' ^s 0° 07'	24° 7' ["] 2° 2'	9° 54' ^s 0° 08'	26° 7' ["] 1° 3'	53° 53' ^s 0° 03'	42° 6' ["] 2° 2'
June 10	43° 60' ^s 0° 12'	22° 5' ["] 2° 4'	9° 62' ^s 0° 13'	25° 4' ["] 1° 5'	53° 56' ^s 0° 09'	39° 8' ["] 3° 3'
20	43° 72' ^s 0° 15'	20° 1' ["] 2° 3'	9° 75' ^s 0° 16'	23° 9' ["] 1° 6'	53° 65' ^s 0° 13'	36° 7' ["] 2° 2'
30	43° 87' ^s 0° 18'	17° 8' ["] 2° 3'	9° 91' ^s 0° 20'	22° 3' ["] 1° 5'	53° 78' ^s 0° 18'	33° 8' ["] 2° 2'
July 10	44° 05' ^s 0° 22'	15° 5' ["] 2° 1'	10° 11' ^s 0° 22'	20° 8' ["] 1° 4'	53° 96' ^s 0° 20'	31° 0' ["] 2° 2'
20	44° 27' ^s 0° 24'	13° 4' ["] 2° 0'	10° 33' ^s 0° 24'	19° 4' ["] 1° 4'	54° 16' ^s 0° 25'	28° 4' ["] 2° 2'
30	44° 51' ^s 0° 26'	11° 4' ["] 1° 7'	10° 57' ^s 0° 27'	18° 0' ["] 1° 2'	54° 41' ^s 0° 27'	25° 9' ["] 2° 2'
Aug. 9	44° 77' ^s 0° 28'	9° 7' ["] 1° 4'	10° 84' ^s 0° 28'	16° 8' ["] 1° 1'	54° 68' ^s 0° 29'	23° 8' ["] 1° 1'
19	45° 05' ^s 0° 29'	8° 3' ["] 1° 1'	11° 12' ^s 0° 28'	15° 7' ["] 0° 8'	54° 97' ^s 0° 31'	22° 0' ["] 1° 1'
29	45° 34' ^s 0° 30'	7° 2' ["] 0° 7'	11° 40' ^s 0° 30'	14° 9' ["] 0° 5'	55° 28' ^s 0° 32'	20° 7' ["] 0° 0'
Sept. 8	45° 64' ^s 0° 30'	6° 5' ["] 0° 2'	11° 70' ^s 0° 29'	14° 4' ["] 0° 3'	55° 60' ^s 0° 32'	19° 9' ["] 0° 0'
18	45° 94' ^s 0° 29'	6° 3' ["] 0° 2'	11° 99' ^s 0° 29'	14° 1' ["] 0° 0'	55° 92' ^s 0° 33'	19° 7' ["] 0° 0'
28	46° 23' ^s 0° 29'	6° 5' ["] 0° 6'	12° 28' ^s 0° 29'	14° 1' ["] 0° 4'	56° 25' ^s 0° 31'	20° 0' ["] 0° 0'
Oct. 8	46° 52' ^s 0° 27'	7° 1' ["] 1° 1'	12° 57' ^s 0° 27'	14° 5' ["] 0° 7'	56° 56' ^s 0° 30'	20° 9' ["] 1° 1'
18	46° 79' ^s 0° 26'	8° 2' ["] 1° 5'	12° 84' ^s 0° 26'	15° 2' ["] 0° 9'	56° 86' ^s 0° 28'	22° 2' ["] 1° 1'
28	47° 05' ^s 0° 24'	9° 7' ["] 1° 8'	13° 10' ^s 0° 24'	16° 1' ["] 1° 2'	57° 14' ^s 0° 25'	24° 1' ["] 2° 2'
Nov. 7	47° 29' ^s 0° 21'	11° 5' ["] 2° 1'	13° 34' ^s 0° 23'	17° 3' ["] 1° 3'	57° 39' ^s 0° 23'	26° 5' ["] 2° 2'
17	47° 50' ^s 0° 18'	13° 6' ["] 2° 2'	13° 57' ^s 0° 19'	18° 6' ["] 1° 4'	57° 62' ^s 0° 18'	29° 1' ["] 2° 2'
27	47° 68' ^s 0° 14'	15° 8' ["] 2° 4'	13° 76' ^s 0° 15'	20° 0' ["] 1° 5'	57° 80' ^s 0° 15'	32° 0' ["] 3° 3'
Dec. 7	47° 82' ^s 0° 11'	18° 2' ["] 2° 4'	13° 91' ^s 0° 13'	21° 5' ["] 1° 6'	57° 95' ^s 0° 09'	35° 0' ["] 4° 2'
17	47° 93' ^s 0° 06'	20° 6' ["] 2° 3'	14° 04' ^s 0° 08'	23° 1' ["] 1° 4'	58° 04' ^s 0° 05'	38° 1' ["] 3° 3'
27	47° 99' ^s 0° 01'	22° 9' ["] 2° 2'	14° 12' ^s 0° 03'	24° 5' ["] 1° 4'	58° 09' ^s 0° 00'	41° 1' ["] 2° 2'
37	48° 00' ^s	25° 1' ["]	14° 15' ^s	25° 9' ["]	58° 09' ^s	43° 9' ["]

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α ORIONIS.		μ Geminorum.		α Argus, (Canopus)	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. South.
	^h 5 ^m 46	^o 7 ⁱ 22	^h 6 ^m 13	^o 22 ⁱ 35	^h 6 ^m 20	^o 52 ⁱ 36
Jan. 1	36 ^s 01 ^s	24 ^s 2 ^s	22 ^s 74 ^s	27 ^s 0 ^s	27 ^s 97 ^s	36 ^s 6 ^s
11	36 ^s 05 ^s 0 ^s 04	23 ^s 3 ^s 0 ^s 9	22 ^s 80 ^s 0 ^s 06	27 ^s 0 ^s 0 ^s 0	27 ^s 94 ^s 0 ^s 03	40 ^s 0 ^s 3 ^s 4
21	36 ^s 04 ^s 0 ^s 01	22 ^s 5 ^s 0 ^s 8	22 ^s 83 ^s 0 ^s 03	27 ^s 0 ^s 0 ^s 0	27 ^s 84 ^s 0 ^s 10	43 ^s 2 ^s 3 ^s 2
31	35 ^s 99 ^s 0 ^s 05	21 ^s 9 ^s 0 ^s 6	22 ^s 80 ^s 0 ^s 03	27 ^s 1 ^s 0 ^s 1	27 ^s 67 ^s 0 ^s 17	46 ^s 1 ^s 2 ^s 9
	0 ^s 09	0 ^s 5	0 ^s 08	0 ^s 1	0 ^s 23	2 ^s 4
Feb. 10	35 ^s 90 ^s 0 ^s 12	21 ^s 4 ^s 0 ^s 4	22 ^s 72 ^s 0 ^s 11	27 ^s 2 ^s 0 ^s 2	27 ^s 44 ^s 0 ^s 27	48 ^s 5 ^s 2 ^s 1
20	35 ^s 78 ^s 0 ^s 15	21 ^s 0 ^s 0 ^s 3	22 ^s 61 ^s 0 ^s 14	27 ^s 4 ^s 0 ^s 0	27 ^s 17 ^s 0 ^s 32	50 ^s 6 ^s 1 ^s 5
Mar. 2	35 ^s 63 ^s 0 ^s 16	20 ^s 7 ^s 0 ^s 2	22 ^s 47 ^s 0 ^s 17	27 ^s 4 ^s 0 ^s 1	26 ^s 85 ^s 0 ^s 35	52 ^s 1 ^s 1 ^s 0
12	35 ^s 47 ^s 0 ^s 17	20 ^s 5 ^s 0 ^s 1	22 ^s 30 ^s 0 ^s 18	27 ^s 5 ^s 0 ^s 0	26 ^s 50 ^s 0 ^s 35	53 ^s 1 ^s 0 ^s 5
	0 ^s 17	0 ^s 4	0 ^s 11	0 ^s 2	0 ^s 28	1 ^s 5
Apr. 22	35 ^s 30 ^s 0 ^s 17	20 ^s 4 ^s 0 ^s 0	22 ^s 12 ^s 0 ^s 17	27 ^s 5 ^s 0 ^s 0	26 ^s 15 ^s 0 ^s 35	53 ^s 6 ^s 0 ^s 0
1	35 ^s 13 ^s 0 ^s 14	20 ^s 4 ^s 0 ^s 1	21 ^s 95 ^s 0 ^s 16	27 ^s 5 ^s 0 ^s 1	25 ^s 80 ^s 0 ^s 34	53 ^s 6 ^s 0 ^s 6
11	34 ^s 99 ^s 0 ^s 13	20 ^s 5 ^s 0 ^s 2	21 ^s 79 ^s 0 ^s 15	27 ^s 4 ^s 0 ^s 1	25 ^s 46 ^s 0 ^s 32	53 ^s 0 ^s 1 ^s 0
21	34 ^s 86 ^s 0 ^s 09	20 ^s 7 ^s 0 ^s 4	21 ^s 64 ^s 0 ^s 11	27 ^s 3 ^s 0 ^s 2	25 ^s 14 ^s 0 ^s 28	52 ^s 0 ^s 1 ^s 5
May 1	34 ^s 77 ^s 0 ^s 05	21 ^s 5 ^s 0 ^s 4	21 ^s 53 ^s 0 ^s 07	27 ^s 1 ^s 0 ^s 2	24 ^s 86 ^s 0 ^s 24	50 ^s 5 ^s 1 ^s 9
11	34 ^s 72 ^s 0 ^s 01	21 ^s 5 ^s 0 ^s 6	21 ^s 46 ^s 0 ^s 03	26 ^s 9 ^s 0 ^s 2	24 ^s 62 ^s 0 ^s 20	48 ^s 6 ^s 2 ^s 3
21	34 ^s 71 ^s 0 ^s 02	22 ^s 1 ^s 0 ^s 7	21 ^s 43 ^s 0 ^s 01	26 ^s 7 ^s 0 ^s 1	24 ^s 42 ^s 0 ^s 13	46 ^s 3 ^s 2 ^s 6
31	34 ^s 73 ^s 0 ^s 07	22 ^s 8 ^s 0 ^s 8	21 ^s 44 ^s 0 ^s 05	26 ^s 6 ^s 0 ^s 2	24 ^s 29 ^s 0 ^s 08	43 ^s 7 ^s 2 ^s 8
June 10	34 ^s 80 ^s 0 ^s 12	23 ^s 6 ^s 1 ^s 0	21 ^s 49 ^s 0 ^s 10	26 ^s 4 ^s 0 ^s 1	24 ^s 21 ^s 0 ^s 00	40 ^s 9 ^s 3 ^s 2
20	34 ^s 92 ^s 0 ^s 16	24 ^s 6 ^s 0 ^s 9	21 ^s 59 ^s 0 ^s 15	26 ^s 3 ^s 0 ^s 0	24 ^s 21 ^s 0 ^s 06	37 ^s 7 ^s 3 ^s 4
30	35 ^s 08 ^s 0 ^s 18	25 ^s 5 ^s 1 ^s 0	21 ^s 74 ^s 0 ^s 18	26 ^s 3 ^s 0 ^s 0	24 ^s 27 ^s 0 ^s 10	34 ^s 3 ^s 3 ^s 2
July 10	35 ^s 26 ^s 0 ^s 22	26 ^s 5 ^s 1 ^s 0	21 ^s 92 ^s 0 ^s 22	26 ^s 3 ^s 0 ^s 1	24 ^s 37 ^s 0 ^s 15	31 ^s 1 ^s 3 ^s 1
	0 ^s 22	1 ^s 0	0 ^s 22	0 ^s 1	0 ^s 15	3 ^s 1
20	35 ^s 48 ^s 0 ^s 24	27 ^s 5 ^s 0 ^s 9	22 ^s 14 ^s 0 ^s 24	26 ^s 4 ^s 0 ^s 0	24 ^s 52 ^s 0 ^s 22	28 ^s 0 ^s 2 ^s 9
30	35 ^s 72 ^s 0 ^s 26	28 ^s 4 ^s 0 ^s 9	22 ^s 38 ^s 0 ^s 26	26 ^s 4 ^s 0 ^s 1	24 ^s 74 ^s 0 ^s 27	25 ^s 1 ^s 2 ^s 6
Aug. 9	35 ^s 98 ^s 0 ^s 28	29 ^s 3 ^s 0 ^s 7	22 ^s 64 ^s 0 ^s 28	26 ^s 5 ^s 0 ^s 1	25 ^s 01 ^s 0 ^s 31	22 ^s 5 ^s 2 ^s 3
19	36 ^s 26 ^s 0 ^s 28	30 ^s 0 ^s 0 ^s 6	22 ^s 92 ^s 0 ^s 31	26 ^s 6 ^s 0 ^s 0	25 ^s 32 ^s 0 ^s 35	20 ^s 2 ^s 1 ^s 8
	0 ^s 28	0 ^s 6	0 ^s 31	0 ^s 0	0 ^s 35	1 ^s 8
29	36 ^s 54 ^s 0 ^s 30	30 ^s 6 ^s 0 ^s 4	23 ^s 23 ^s 0 ^s 31	26 ^s 6 ^s 0 ^s 1	25 ^s 67 ^s 0 ^s 37	18 ^s 4 ^s 1 ^s 3
Sept. 8	36 ^s 84 ^s 0 ^s 30	31 ^s 0 ^s 0 ^s 2	23 ^s 54 ^s 0 ^s 32	26 ^s 5 ^s 0 ^s 1	26 ^s 04 ^s 0 ^s 40	17 ^s 1 ^s 0 ^s 7
18	37 ^s 14 ^s 0 ^s 30	31 ^s 2 ^s 0 ^s 1	23 ^s 86 ^s 0 ^s 33	26 ^s 4 ^s 0 ^s 1	26 ^s 44 ^s 0 ^s 41	16 ^s 4 ^s 0 ^s 1
28	37 ^s 44 ^s 0 ^s 30	31 ^s 1 ^s 0 ^s 2	24 ^s 19 ^s 0 ^s 32	26 ^s 3 ^s 0 ^s 3	26 ^s 85 ^s 0 ^s 41	16 ^s 3 ^s 0 ^s 6
	0 ^s 30	0 ^s 2	0 ^s 32	0 ^s 3	0 ^s 41	0 ^s 6
Oct. 8	37 ^s 74 ^s 0 ^s 29	30 ^s 9 ^s 0 ^s 5	24 ^s 51 ^s 0 ^s 33	26 ^s 0 ^s 0 ^s 3	27 ^s 26 ^s 0 ^s 40	16 ^s 9 ^s 1 ^s 2
18	38 ^s 03 ^s 0 ^s 27	30 ^s 4 ^s 0 ^s 7	24 ^s 84 ^s 0 ^s 31	25 ^s 7 ^s 0 ^s 3	27 ^s 66 ^s 0 ^s 38	18 ^s 1 ^s 1 ^s 9
28	38 ^s 30 ^s 0 ^s 27	29 ^s 7 ^s 0 ^s 9	25 ^s 15 ^s 0 ^s 31	25 ^s 4 ^s 0 ^s 4	28 ^s 04 ^s 0 ^s 36	20 ^s 0 ^s 2 ^s 3
Nov. 7	38 ^s 57 ^s 0 ^s 24	28 ^s 8 ^s 0 ^s 9	25 ^s 46 ^s 0 ^s 28	25 ^s 0 ^s 0 ^s 4	28 ^s 40 ^s 0 ^s 31	22 ^s 3 ^s 2 ^s 5
	0 ^s 24	0 ^s 9	0 ^s 28	0 ^s 4	0 ^s 31	2 ^s 5
17	38 ^s 81 ^s 0 ^s 21	27 ^s 9 ^s 1 ^s 1	25 ^s 74 ^s 0 ^s 26	24 ^s 6 ^s 0 ^s 4	28 ^s 71 ^s 0 ^s 27	25 ^s
27	39 ^s 02 ^s 0 ^s 19	26 ^s 8 ^s 1 ^s 0	26 ^s 00 ^s 0 ^s 23	24 ^s 2 ^s 0 ^s 3	28 ^s 98 ^s 0 ^s 21	28 ^s
Dec. 7	39 ^s 21 ^s 0 ^s 14	25 ^s 8 ^s 1 ^s 1	26 ^s 23 ^s 0 ^s 19	23 ^s 9 ^s 0 ^s 2	29 ^s 19 ^s 0 ^s 14	31 ^s
17	39 ^s 35 ^s 0 ^s 11	24 ^s 7 ^s 1 ^s 0	26 ^s 42 ^s 0 ^s 15	23 ^s 7 ^s 0 ^s 2	29 ^s 33 ^s 0 ^s 08	31 ^s
	0 ^s 11	1 ^s 0	0 ^s 15	0 ^s 2	0 ^s 08	0 ^s 8
27	39 ^s 46 ^s 0 ^s 06	23 ^s 7 ^s 1 ^s 0	26 ^s 57 ^s 0 ^s 09	23 ^s 5 ^s 0 ^s 1	29 ^s 41 ^s 0 ^s 01	29 ^s
37	39 ^s 52 ^s 0 ^s 06	22 ^s 7 ^s 1 ^s 0	26 ^s 66 ^s 0 ^s 09	23 ^s 4 ^s 0 ^s 1	29 ^s 42 ^s 0 ^s 01	29 ^s

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	51 (Hev.) Cephei.		α CANIS MAJORIS. (Sirius)		ϵ Canis Majoris.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. South.
	^h 6 ^m 23	^o 87 ⁱ 15	^h 6 ^m 38	^o 16 ⁱ 29	^h 6 ^m 52	^o 28 ⁱ 45
Jan. 1	92° 33' 0.17	48° 0' 3.2	10° 56' 0.06	67° 8' 2.4	24° 76' 0.07	32° 1' 3.0
11	92° 50' 0.73	51° 2' 3.1	10° 62' 0.02	70° 2' 2.2	24° 83' 0.01	35° 1' 2.7
21	91° 77' 1.61	54° 3' 2.8	10° 64' 0.03	72° 4' 1.9	24° 84' 0.04	37° 8' 2.3
31	90° 16' 2.37	57° 1' 2.6	10° 61' 0.08	74° 3' 1.7	24° 80' 0.09	40° 3' 2.2
Feb. 10	87° 79' 3.09	59° 7' 2.1	10° 53' 0.13	76° 0' 1.4	24° 71' 0.13	42° 5' 1.8
20	84° 70' 3.62	61° 8' 1.6	10° 40' 0.14	77° 4' 1.0	24° 58' 0.16	44° 3' 1.3
Mar. 2	81° 08' 3.99	63° 4' 1.0	10° 26' 0.17	78° 4' 0.8	24° 42' 0.19	45° 8' 1.1
12	77° 09' 4.21	64° 4' 0.5	10° 09' 0.18	79° 2' 0.4	24° 23' 0.21	46° 9' 0.6
22	72° 88' 4.23	64° 9' 0.2	9° 91' 0.18	79° 6' 0.1	24° 02' 0.22	47° 5' 0.3
Apr. 1	68° 65' 4.07	64° 7' 0.7	9° 73' 0.18	79° 7' 0.2	23° 80' 0.20	47° 8' 0.2
11	64° 58' 3.80	64° 0' 1.4	9° 55' 0.16	79° 5' 0.5	23° 60' 0.20	47° 6' 0.5
21	60° 78' 3.31	62° 6' 1.8	9° 39' 0.15	79° 0' 0.9	23° 40' 0.17	47° 1' 1.0
May 1	57° 47' 2.75	60° 8' 2.2	9° 24' 0.11	78° 1' 1.1	23° 23' 0.14	46° 1' 1.3
11	54° 72' 2.08	58° 6' 2.6	9° 13' 0.07	77° 0' 1.3	23° 09' 0.11	44° 8' 1.6
21	52° 64' 1.35	56° 0' 2.9	9° 06' 0.04	75° 7' 1.5	22° 98' 0.07	43° 2' 1.9
31	51° 29' 0.59	53° 1' 3.0	9° 02' 0.00	74° 2' 1.8	22° 91' 0.03	41° 3' 2.1
June 10	50° 70' 0.22	50° 1' 3.2	9° 02' 0.04	72° 4' 1.8	22° 88' 0.01	39° 2' 2.2
20	50° 92' 1.16	46° 9' 3.4	9° 06' 0.08	70° 6' 2.0	22° 89' 0.05	37° 0' 2.5
30	52° 08' 1.82	43° 5' 3.1	9° 14' 0.13	68° 6' 2.2	22° 94' 0.10	34° 5' 2.8
July 10	53° 90' 2.54	40° 4' 2.9	* 9° 27' 0.15	66° 4' 2.0	* 23° 04' 0.13	31° 7' 2.5
20	56° 44' 3.22	37° 5' 2.7	9° 42' 0.19	64° 4' 1.8	23° 17' 0.17	29° 2' 2.3
30	59° 66' 3.80	34° 8' 2.4	9° 61' 0.21	62° 6' 1.7	23° 34' 0.20	26° 9' 2.2
Aug. 9	63° 46' 4.31	32° 4' 2.1	9° 82' 0.23	60° 9' 1.5	23° 54' 0.23	24° 7' 1.9
19	67° 77' 4.74	30° 3' 1.7	10° 05' 0.26	59° 4' 1.1	23° 77' 0.26	22° 8' 1.5
29	72° 51' 5.06	28° 6' 1.3	10° 31' 0.27	58° 3' 0.8	24° 03' 0.28	21° 3' 1.2
Sept. 8	77° 57' 5.31	27° 3' 0.9	10° 58' 0.28	57° 5' 0.4	24° 31' 0.29	20° 1' 0.7
18	82° 88' 5.46	26° 4' 0.5	10° 86' 0.30	57° 1' 0.2	24° 60' 0.31	19° 4' 0.1
28	88° 34' 5.47	25° 9' 0.1	11° 16' 0.29	57° 3' 0.4	24° 91' 0.31	19° 3' 0.3
Oct. 8	93° 81' 5.41	26° 0' 0.5	11° 45' 0.30	57° 7' 0.9	25° 22' 0.32	19° 6' 1.0
18	99° 22' 5.20	26° 5' 1.0	11° 75' 0.30	58° 6' 1.4	25° 54' 0.32	20° 6' 1.4
28	104° 42' 4.85	27° 5' 1.4	12° 05' 0.28	60° 0' 1.7	25° 86' 0.30	22° 0' 1.8
Nov. 7	109° 27' 4.44	28° 9' 1.9	12° 33' 0.27	61° 7' 2.0	26° 16' 0.29	23° 8' 2.3
17	113° 71' 3.84	30° 8' 2.3	12° 60' 0.24	63° 7' 2.3	26° 45' 0.25	26° 1' 2.7
27	117° 55' 3.19	33° 1' 2.7	12° 84' 0.21	66° 0' 2.4	26° 70' 0.23	28° 8' 2.8
Dec. 7	120° 74' 2.41	35° 8' 2.9	13° 05' 0.18	68° 4' 2.6	26° 93' 0.19	31° 6' 3.0
17	123° 15' 1.56	38° 7' 3.1	13° 23' 0.13	71° 0' 2.5	27° 12' 0.14	34° 6' 3.1
27	124° 71' 0.63	41° 8' 3.1	13° 36' 0.09	73° 5' 2.4	27° 26' 0.09	37° 7' 3.0
37	125° 34'	44° 9'	13° 45'	75° 9'	27° 35'	40° 7'

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β Geminorum.		α^2 GEMINORUM. (Castor)		α CANIS MINORIS. (Procyon)	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. North.
	^h ₇ ^m ₁₀	[°] ₂₂ ['] ₁₆	^h ₇ ^m ₂₄	[°] ₃₂ ['] ₁₃	^h ₇ ^m ₃₀	[°] ₅ ['] ₃₇
Jan. 1	39° 74' ^s _{0.13}	9° 6' ["] _{0.2}	29° 39' ^s _{0.16}	49° 8' ["] _{0.4}	60° 57' ^s _{0.13}	40° 4' ["] _{1.3}
11	39° 87' ^s _{0.08}	9° 4' ["] _{0.1}	29° 55' ^s _{0.10}	50° 2' ["] _{0.6}	60° 70' ^s _{0.09}	39° 1' ["] _{1.2}
21	39° 95' ^s _{0.03}	9° 3' ["] _{0.1}	29° 65' ^s _{0.04}	50° 8' ["] _{0.6}	60° 79' ^s _{0.03}	37° 9' ["] _{1.0}
31	39° 98' ^s _{0.03}	9° 4' ["] _{0.2}	29° 69' ^s _{0.01}	51° 4' ["] _{0.7}	60° 82' ^s _{0.01}	36° 9' ["] _{0.7}
Feb. 10	39° 95' ^s _{0.07}	9° 6' ["] _{0.2}	29° 68' ^s _{0.07}	52° 1' ["] _{0.8}	60° 81' ^s _{0.06}	36° 2' ["] _{0.7}
20	39° 88' ^s _{0.11}	9° 8' ["] _{0.3}	29° 61' ^s _{0.11}	52° 9' ["] _{0.7}	60° 75' ^s _{0.09}	35° 5' ["] _{0.4}
Mar. 2	39° 77' ^s _{0.15}	10° 1' ["] _{0.2}	29° 50' ^s _{0.15}	53° 6' ["] _{0.6}	60° 66' ^s _{0.13}	35° 1' ["] _{0.3}
12	39° 62' ^s _{0.16}	10° 3' ["] _{0.2}	29° 35' ^s _{0.18}	54° 2' ["] _{0.5}	60° 53' ^s _{0.15}	34° 8' ["] _{0.1}
22	39° 46' ^s _{0.17}	10° 5' ["] _{0.2}	29° 17' ^s _{0.18}	54° 7' ["] _{0.4}	60° 38' ^s _{0.15}	34° 7' ["] _{0.1}
Apr. 1	39° 29' ^s _{0.17}	10° 7' ["] _{0.2}	28° 99' ^s _{0.18}	55° 1' ["] _{0.2}	60° 23' ^s _{0.16}	34° 6' ["] _{0.1}
11	39° 12' ^s _{0.16}	10° 9' ["] _{0.0}	28° 81' ^s _{0.18}	55° 3' ["] _{0.0}	60° 07' ^s _{0.16}	34° 7' ["] _{0.2}
21	38° 96' ^s _{0.13}	10° 9' ["] _{0.0}	28° 63' ^s _{0.16}	55° 3' ["] _{0.1}	59° 91' ^s _{0.13}	34° 9' ["] _{0.3}
May 1	38° 83' ^s _{0.11}	10° 9' ["] _{0.0}	28° 47' ^s _{0.13}	55° 2' ["] _{0.3}	59° 78' ^s _{0.11}	35° 2' ["] _{0.4}
11	38° 72' ^s _{0.07}	10° 9' ["] _{0.1}	28° 34' ^s _{0.09}	54° 9' ["] _{0.4}	59° 67' ^s _{0.09}	35° 6' ["] _{0.4}
21	38° 65' ^s _{0.04}	10° 8' ["] _{0.1}	28° 25' ^s _{0.06}	54° 5' ["] _{0.5}	59° 58' ^s _{0.05}	36° 0' ["] _{0.6}
31	38° 61' ^s _{0.00}	10° 7' ["] _{0.2}	28° 19' ^s _{0.01}	54° 0' ["] _{0.7}	59° 53' ^s _{0.02}	36° 6' ["] _{0.6}
June 10	38° 61' ^s _{0.04}	10° 5' ["] _{0.1}	28° 18' ^s _{0.03}	53° 3' ["] _{0.7}	59° 51' ^s _{0.02}	37° 2' ["] _{0.7}
20	38° 65' ^s _{0.09}	10° 4' ["] _{0.2}	28° 21' ^s _{0.07}	52° 6' ["] _{0.7}	59° 53' ^s _{0.05}	37° 9' ["] _{0.6}
30	38° 74' ^s _{0.12}	10° 2' ["] _{0.2}	28° 28' ^s _{0.12}	51° 9' ["] _{0.8}	59° 58' ^s _{0.09}	38° 5' ["] _{0.7}
July 10	38° 86' ^s _{0.15}	10° 0' ["] _{0.2}	28° 40' ^s _{0.17}	51° 1' ["] _{0.9}	59° 67' ^s _{0.13}	39° 2' ["] _{0.7}
20	39° 01' ^s _{0.20}	9° 8' ["] _{0.2}	28° 57' ^s _{0.19}	50° 2' ["] _{0.8}	59° 80' ^s _{0.15}	39° 9' ["] _{0.7}
30	39° 21' ^s _{0.22}	9° 6' ["] _{0.2}	28° 76' ^s _{0.22}	49° 4' ["] _{0.9}	59° 95' ^s _{0.18}	40° 6' ["] _{0.6}
Aug. 9	39° 43' ^s _{0.24}	9° 4' ["] _{0.3}	28° 98' ^s _{0.25}	48° 5' ["] _{0.9}	60° 13' ^s _{0.20}	41° 2' ["] _{0.4}
19	39° 67' ^s _{0.27}	9° 1' ["] _{0.3}	29° 23' ^s _{0.27}	47° 6' ["] _{0.8}	60° 33' ^s _{0.23}	41° 6' ["] _{0.3}
29	39° 94' ^s _{0.28}	8° 8' ["] _{0.5}	29° 50' ^s _{0.30}	46° 8' ["] _{0.9}	60° 56' ^s _{0.24}	41° 9' ["] _{0.0}
Sept. 8	40° 22' ^s _{0.30}	8° 3' ["] _{0.5}	29° 80' ^s _{0.32}	45° 9' ["] _{0.9}	60° 80' ^s _{0.27}	41° 9' ["] _{0.2}
18	40° 52' ^s _{0.31}	7° 8' ["] _{0.6}	30° 12' ^s _{0.34}	45° 0' ["] _{0.9}	61° 07' ^s _{0.28}	41° 7' ["] _{0.4}
28	40° 83' ^s _{0.33}	7° 2' ["] _{0.7}	30° 46' ^s _{0.35}	44° 1' ["] _{0.8}	61° 35' ^s _{0.29}	41° 3' ["] _{0.6}
Oct. 8	41° 16' ^s _{0.33}	6° 5' ["] _{0.7}	30° 81' ^s _{0.36}	43° 3' ["] _{0.9}	61° 64' ^s _{0.30}	40° 7' ["] _{0.9}
18	41° 49' ^s _{0.33}	5° 8' ["] _{0.8}	31° 17' ^s _{0.36}	42° 4' ["] _{0.7}	61° 94' ^s _{0.31}	39° 8' ["] _{1.1}
28	41° 82' ^s _{0.33}	5° 0' ["] _{0.8}	31° 53' ^s _{0.36}	41° 7' ["] _{0.7}	62° 25' ^s _{0.30}	38° 7' ["] _{1.3}
Nov. 7	42° 15' ^s _{0.32}	4° 2' ["] _{0.8}	31° 89' ^s _{0.35}	41° 0' ["] _{0.6}	62° 55' ^s _{0.30}	37° 4' ["] _{0.6}
17	42° 47' ^s _{0.30}	3° 4' ["] _{0.8}	32° 24' ^s _{0.34}	40° 4' ["] _{0.4}	62° 85' ^s _{0.30}	35° ["] _{0.6}
27	42° 77' ^s _{0.28}	2° 6' ["] _{0.6}	32° 58' ^s _{0.31}	40° 0' ["] _{0.2}	63° 15' ^s _{0.27}	34° ["] _{0.6}
Dec. 7	43° 05' ^s _{0.24}	2° 0' ["] _{0.6}	32° 89' ^s _{0.28}	39° 8' ["] _{0.1}	63° 42' ^s _{0.23}	33° ["] _{0.6}
17	43° 29' ^s _{0.20}	1° 4' ["] _{0.4}	33° 17' ^s _{0.23}	39° 7' ["] _{0.1}	63° 65' ^s _{0.20}	33° ["] _{0.6}
27	43° 49' ^s _{0.16}	1° 0' ["] _{0.3}	33° 40' ^s _{0.18}	39° 8' ["] _{0.3}	63° 85' ^s _{0.16}	33° ["] _{0.6}
37	43° 65' ^s _{0.16}	0° 7' ["] _{0.3}	33° 58' ^s _{0.18}	40° 1' ["] _{0.3}	64° 01' ^s _{0.16}	33° ["] _{0.6}

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β GEMINORUM. (Pollux)		15 Argus.		ϵ Hydræ.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. North.
	^h 7 ^m 35	^o 28 ['] 24	^h 8 ^m 0	^o 23 ['] 50	^h 8 ^m 38	^o 6 ['] 59
Jan. 1	37° 20' 0"	15° 4' 0"	48° 51' 0"	53° 5' 0"	23° 17' 0"	53° 2' 0"
11	37° 36' 0.16"	15° 5' 0.1"	48° 66' 0.15"	56° 4' 2.9"	23° 38' 0.21"	51° 8' 1.4"
21	37° 47' 0.11"	15° 8' 0.3"	48° 75' 0.09"	59° 2' 2.8"	23° 53' 0.15"	50° 5' 1.3"
31	37° 52' 0.05"	16° 2' 0.4"	48° 79' 0.04"	61° 8' 2.6"	23° 63' 0.10"	49° 5' 1.0"
	0.00"	0.5"	0.01"	2.4"	0.06"	0.8"
Feb. 10	37° 52' 0.06"	16° 7' 0.6"	48° 78' 0.06"	64° 2' 2.1"	23° 69' 0.00"	48° 7' 0.6"
20	37° 46' 0.10"	17° 3' 0.6"	48° 72' 0.10"	66° 3' 1.8"	23° 69' 0.04"	48° 1' 0.4"
Mar. 2	37° 36' 0.13"	17° 9' 0.5"	48° 62' 0.14"	68° 1' 1.4"	23° 65' 0.08"	47° 7' 0.3"
12	37° 23' 0.17"	18° 4' 0.5"	48° 48' 0.16"	69° 5' 1.1"	23° 57' 0.10"	47° 4' 0.1"
22	37° 06' 0.17"	18° 9' 0.4"	48° 32' 0.17"	70° 6' 0.7"	23° 47' 0.13"	47° 3' 0.1"
Apr. 1	36° 89' 0.18"	19° 3' 0.2"	48° 15' 0.19"	71° 3' 0.4"	23° 34' 0.14"	47° 4' 0.2"
11	36° 71' 0.17"	19° 5' 0.2"	47° 96' 0.18"	71° 7' 0.0"	23° 20' 0.15"	47° 6' 0.3"
21	36° 54' 0.16"	19° 7' 0.0"	47° 78' 0.17"	71° 7' 0.4"	23° 05' 0.13"	47° 8' 0.3"
May 1	36° 38' 0.12"	19° 7' 0.2"	47° 61' 0.15"	71° 3' 0.7"	22° 92' 0.13"	48° 1' 0.4"
11	36° 26' 0.10"	19° 5' 0.2"	47° 46' 0.13"	70° 6' 1.0"	22° 79' 0.11"	48° 5' 0.4"
21	36° 16' 0.06"	19° 3' 0.3"	47° 33' 0.10"	69° 6' 1.3"	22° 68' 0.08"	48° 9' 0.5"
31	36° 10' 0.02"	19° 0' 0.5"	47° 23' 0.07"	68° 3' 1.5"	22° 60' 0.06"	49° 4' 0.5"
June 10	36° 08' 0.02"	18° 5' 0.5"	47° 16' 0.04"	66° 8' 1.8"	22° 54' 0.03"	49° 9' 0.3"
20	36° 10' 0.06"	18° 0' 0.5"	47° 12' 0.00"	65° 0' 1.9"	22° 51' 0.00"	50° 4' 0.5"
30	36° 16' 0.09"	17° 5' 0.6"	47° 12' 0.03"	63° 1' 2.1"	22° 51' 0.03"	50° 9' 0.5"
July 10	36° 25' 0.15"	16° 9' 0.7"	47° 15' 0.07"	61° 0' 2.1"	22° 54' 0.05"	51° 4' 0.5"
20	36° 40' 0.17"	16° 2' 0.6"	47° 22' 0.11"	58° 9' 2.2"	22° 59' 0.09"	51° 9' 0.4"
30	36° 57' 0.20"	15° 6' 0.7"	47° 33' 0.13"	56° 7' 2.1"	22° 68' 0.13"	52° 3' 0.3"
Aug. 9	36° 77' 0.23"	14° 9' 0.8"	47° 46' 0.17"	54° 6' 1.8"	22° 81' 0.14"	52° 6' 0.2"
19	37° 00' 0.26"	14° 1' 0.8"	47° 63' 0.20"	52° 8' 1.5"	22° 95' 0.18"	52° 8' 0.0"
29	37° 26' 0.28"	13° 3' 0.8"	47° 83' 0.23"	51° 3' 1.2"	23° 13' 0.19"	52° 8' 0.2"
Sept. 8	37° 54' 0.30"	12° 5' 0.8"	48° 06' 0.25"	50° 1' 0.9"	23° 32' 0.23"	52° 6' 0.4"
18	37° 84' 0.31"	11° 7' 1.0"	48° 31' 0.27"	49° 2' 0.4"	23° 55' 0.25"	52° 2' 0.6"
28	38° 15' 0.34"	10° 7' 0.9"	48° 58' 0.30"	48° 8' 0.2"	23° 80' 0.27"	51° 6' 0.8"
Oct. 8	38° 49' 0.34"	9° 8' 0.9"	48° 88' 0.31"	49° 0' 0.6"	24° 07' 0.29"	50° 8' 1.1"
18	38° 83' 0.35"	8° 9' 0.9"	49° 19' 0.32"	49° 6' 1.0"	24° 36' 0.30"	49° 7' 1.3"
28	39° 18' 0.35"	8° 0' 0.9"	49° 51' 0.32"	50° 6' 1.5"	24° 66' 0.32"	48° 4' 1.5"
Nov. 7	39° 53' 0.34"	7° 1' 0.8"	49° 83' 0.32"	52° 1' 2.0"	24° 98' 0.33"	46° 9' 1.6"
17	39° 87' 0.33"	6° 3' 0.6"	50° 15' 0.30"	54° 1' 2.3"	25° 31' 0.31"	45° 3' 1.7"
27	40° 20' 0.31"	5° 7' 0.6"	50° 45' 0.28"	56° 4' 2.6"	25° 62' 0.31"	43° 6' 1.7"
Dec. 7	40° 51' 0.28"	5° 1' 0.3"	50° 73' 0.24"	59° 0' 2.8"	25° 93' 0.29"	41° 9' 1.8"
17	40° 79' 0.23"	4° 8' 0.2"	50° 97' 0.22"	61° 8' 3.0"	26° 22' 0.26"	40° 1' 1.6"
27	41° 02' 0.19"	4° 6' 0.0"	51° 19' 0.18"	64° 8' 2.9"	26° 48' 0.22"	38° 5' 1.5"
37	41° 21' 0.18"	4° 6' 0.0"	51° 37' 0.18"	67° 7' 2.9"	26° 70' 0.22"	37° 9' 1.5"

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	♌ Ursæ Majoris.		♐ Argus.		♒ HYDRÆ.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. South.
	^h 8 ^m 48	^o 48 ⁱ 39	^h 9 ^m 12	^o 58 ⁱ 36	^h 9 ^m 19	^o 7 ⁱ 58
Jan. 1	20 ^s 43 ^s 0 ^s 29	31 ^s 6 ^s 0 ^s 9	52 ^s 03 ^s 0 ^s 27	24 ^s 3 ^s 3 ^s 7	48 ^s 20 ^s 0 ^s 23	19 ^s 3 ^s 2 ^s 3
11	20 ^s 72 ^s 0 ^s 23	32 ^s 5 ^s 1 ^s 2	52 ^s 30 ^s 0 ^s 19	28 ^s 0 ^s 3 ^s 8	48 ^s 43 ^s 0 ^s 18	21 ^s 6 ^s 2 ^s 2
21	20 ^s 95 ^s 0 ^s 15	33 ^s 7 ^s 1 ^s 5	52 ^s 49 ^s 0 ^s 11	31 ^s 8 ^s 3 ^s 9	48 ^s 61 ^s 0 ^s 14	23 ^s 8 ^s 2 ^s 0
31	21 ^s 10 ^s 0 ^s 08	35 ^s 2 ^s 1 ^s 7	52 ^s 60 ^s 0 ^s 02	35 ^s 7 ^s 3 ^s 8	48 ^s 75 ^s 0 ^s 08	25 ^s 8 ^s 1 ^s 8
Feb. 10	21 ^s 18 ^s 0 ^s 01	36 ^s 9 ^s 1 ^s 7	52 ^s 62 ^s 0 ^s 05	39 ^s 5 ^s 3 ^s 6	48 ^s 83 ^s 0 ^s 04	27 ^s 6 ^s 1 ^s 5
20	21 ^s 19 ^s 0 ^s 06	38 ^s 6 ^s 1 ^s 7	52 ^s 57 ^s 0 ^s 13	43 ^s 1 ^s 3 ^s 4	48 ^s 87 ^s 0 ^s 01	29 ^s 1 ^s 1 ^s 3
Mar. 2	21 ^s 13 ^s 0 ^s 11	40 ^s 3 ^s 1 ^s 7	52 ^s 44 ^s 0 ^s 19	46 ^s 5 ^s 3 ^s 1	48 ^s 86 ^s 0 ^s 04	30 ^s 4 ^s 1 ^s 1
12	21 ^s 02 ^s 0 ^s 17	42 ^s 0 ^s 1 ^s 5	52 ^s 25 ^s 0 ^s 25	49 ^s 6 ^s 2 ^s 7	48 ^s 82 ^s 0 ^s 09	31 ^s 5 ^s 0 ^s 8
22	20 ^s 85 ^s 0 ^s 21	43 ^s 5 ^s 1 ^s 3	52 ^s 00 ^s 0 ^s 29	52 ^s 3 ^s 2 ^s 3	48 ^s 73 ^s 0 ^s 10	32 ^s 3 ^s 0 ^s 5
Apr. 1	20 ^s 64 ^s 0 ^s 22	44 ^s 8 ^s 1 ^s 0	51 ^s 71 ^s 0 ^s 32	54 ^s 6 ^s 1 ^s 8	48 ^s 63 ^s 0 ^s 13	32 ^s 8 ^s 0 ^s 4
11	20 ^s 42 ^s 0 ^s 24	45 ^s 8 ^s 0 ^s 7	51 ^s 39 ^s 0 ^s 34	56 ^s 4 ^s 1 ^s 3	48 ^s 50 ^s 0 ^s 13	33 ^s 2 ^s 0 ^s 1
21	20 ^s 18 ^s 0 ^s 24	46 ^s 5 ^s 0 ^s 3	51 ^s 05 ^s 0 ^s 36	57 ^s 7 ^s 0 ^s 9	48 ^s 37 ^s 0 ^s 14	33 ^s 3 ^s 0 ^s 1
May 1	19 ^s 94 ^s 0 ^s 21	46 ^s 8 ^s 0 ^s 0	50 ^s 69 ^s 0 ^s 35	58 ^s 6 ^s 0 ^s 3	48 ^s 23 ^s 0 ^s 13	33 ^s 2 ^s 0 ^s 4
11	19 ^s 73 ^s 0 ^s 20	46 ^s 8 ^s 0 ^s 3	50 ^s 34 ^s 0 ^s 33	58 ^s 9 ^s 0 ^s 2	48 ^s 10 ^s 0 ^s 11	32 ^s 8 ^s 0 ^s 4
21	19 ^s 53 ^s 0 ^s 17	46 ^s 5 ^s 0 ^s 7	50 ^s 01 ^s 0 ^s 32	58 ^s 7 ^s 0 ^s 7	47 ^s 99 ^s 0 ^s 11	32 ^s 4 ^s 0 ^s 7
31	19 ^s 36 ^s 0 ^s 12	45 ^s 8 ^s 1 ^s 0	49 ^s 69 ^s 0 ^s 29	58 ^s 0 ^s 1 ^s 1	47 ^s 88 ^s 0 ^s 08	31 ^s 7 ^s 0 ^s 8
June 10	19 ^s 24 ^s 0 ^s 09	44 ^s 8 ^s 1 ^s 2	49 ^s 40 ^s 0 ^s 26	56 ^s 9 ^s 1 ^s 7	47 ^s 80 ^s 0 ^s 07	30 ^s 9 ^s 0 ^s 9
20	19 ^s 15 ^s 0 ^s 03	43 ^s 6 ^s 1 ^s 5	49 ^s 14 ^s 0 ^s 21	55 ^s 2 ^s 2 ^s 0	47 ^s 73 ^s 0 ^s 03	30 ^s 0 ^s 1 ^s 0
30	19 ^s 12 ^s 0 ^s 00	42 ^s 1 ^s 1 ^s 7	48 ^s 93 ^s 0 ^s 16	53 ^s 2 ^s 2 ^s 3	47 ^s 70 ^s 0 ^s 02	29 ^s 0 ^s 1 ^s 1
July 10	19 ^s 12 ^s 0 ^s 06	40 ^s 4 ^s 1 ^s 8	48 ^s 77 ^s 0 ^s 11	50 ^s 9 ^s 2 ^s 6	47 ^s 68 ^s 0 ^s 02	27 ^s 9 ^s 1 ^s 1
20	19 ^s 18 ^s 0 ^s 10	38 ^s 6 ^s 2 ^s 0	48 ^s 66 ^s 0 ^s 05	48 ^s 3 ^s 2 ^s 8	47 ^s 70 ^s 0 ^s 04	26 ^s 8 ^s 1 ^s 2
30	19 ^s 28 ^s 0 ^s 16	36 ^s 6 ^s 2 ^s 3	48 ^s 61 ^s 0 ^s 01	45 ^s 5 ^s 3 ^s 0	47 ^s 74 ^s 0 ^s 06	25 ^s 6 ^s 1 ^s 0
Aug. 9	19 ^s 44 ^s 0 ^s 19	34 ^s 3 ^s 2 ^s 2	48 ^s 62 ^s 0 ^s 08	42 ^s 5 ^s 3 ^s 2	47 ^s 80 ^s 0 ^s 11	24 ^s 6 ^s 1 ^s 1
19	19 ^s 63 ^s 0 ^s 23	32 ^s 1 ^s 2 ^s 2	48 ^s 70 ^s 0 ^s 15	39 ^s 3 ^s 2 ^s 7	47 ^s 91 ^s 0 ^s 13	23 ^s 5 ^s 0 ^s 7
29	19 ^s 86 ^s 0 ^s 27	29 ^s 9 ^s 2 ^s 1	48 ^s 85 ^s 0 ^s 22	36 ^s 6 ^s 2 ^s 6	48 ^s 04 ^s 0 ^s 15	22 ^s 8 ^s 0 ^s 6
Sept. 8	20 ^s 13 ^s 0 ^s 31	27 ^s 8 ^s 2 ^s 2	49 ^s 07 ^s 0 ^s 28	34 ^s 0 ^s 2 ^s 2	48 ^s 19 ^s 0 ^s 19	22 ^s 2 ^s 0 ^s 2
18	20 ^s 44 ^s 0 ^s 35	25 ^s 6 ^s 2 ^s 0	49 ^s 35 ^s 0 ^s 34	31 ^s 8 ^s 1 ^s 8	48 ^s 38 ^s 0 ^s 21	22 ^s 0 ^s 0 ^s 0
28	20 ^s 79 ^s 0 ^s 38	23 ^s 6 ^s 2 ^s 0	49 ^s 69 ^s 0 ^s 40	30 ^s 0 ^s 1 ^s 3	48 ^s 59 ^s 0 ^s 25	22 ^s 0 ^s 0 ^s 3
Oct. 8	21 ^s 17 ^s 0 ^s 40	21 ^s 6 ^s 1 ^s 8	50 ^s 09 ^s 0 ^s 44	28 ^s 7 ^s 0 ^s 7	48 ^s 84 ^s 0 ^s 30	20 ^s 3 ^s 0 ^s 8
18	21 ^s 57 ^s 0 ^s 43	19 ^s 8 ^s 1 ^s 6	50 ^s 53 ^s 0 ^s 47	28 ^s 0 ^s 0 ^s 1	49 ^s 11 ^s 0 ^s 35	19 ^s 0 ^s 1 ^s 0
28	22 ^s 00 ^s 0 ^s 45	18 ^s 2 ^s 1 ^s 3	51 ^s 00 ^s 0 ^s 50	27 ^s 9 ^s 0 ^s 6	49 ^s 40 ^s 0 ^s 40	17 ^s 4 ^s 1 ^s 4
Nov. 7	22 ^s 45 ^s 0 ^s 46	16 ^s 9 ^s 1 ^s 1	51 ^s 50 ^s 0 ^s 51	28 ^s 5 ^s 1 ^s 2	49 ^s 7 ^s 0 ^s 45	15 ^s 8 ^s 1 ^s 8
17	22 ^s 91 ^s 0 ^s 45	15 ^s 8 ^s 0 ^s 7	52 ^s 01 ^s 0 ^s 49	29 ^s 7 ^s 1 ^s 8	50 ^s 0 ^s 50	14 ^s 9 ^s 1 ^s 9
27	23 ^s 36 ^s 0 ^s 44	15 ^s 1 ^s 0 ^s 4	52 ^s 50 ^s 0 ^s 47	31 ^s 5 ^s 2 ^s 4	50 ^s 0 ^s 55	13 ^s 0 ^s 2 ^s 5
Dec. 7	23 ^s 80 ^s 0 ^s 41	14 ^s 7 ^s 0 ^s 0	52 ^s 97 ^s 0 ^s 43	33 ^s 9 ^s 2 ^s 9	50 ^s 0 ^s 59	11 ^s 0 ^s 3 ^s 9
17	24 ^s 21 ^s 0 ^s 37	14 ^s 7 ^s 0 ^s 4	53 ^s 40 ^s 0 ^s 38	36 ^s 8 ^s 3 ^s 3	50 ^s 0 ^s 59	9 ^s 0 ^s 4 ^s 9
27	24 ^s 58 ^s 0 ^s 32	15 ^s 1 ^s 0 ^s 8	53 ^s 78 ^s 0 ^s 31	40 ^s 1 ^s 3 ^s 5	50 ^s 0 ^s 59	7 ^s 0 ^s 6 ^s 9
37	24 ^s 90 ^s 0 ^s 32	15 ^s 9 ^s 0 ^s 8	54 ^s 09 ^s 0 ^s 31	43 ^s 6 ^s 3 ^s 5	50 ^s 0 ^s 59	5 ^s 0 ^s 8 ^s 9

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	θ Ursæ Majoris.		ϵ Leonis.		α LEONIS. (Regulus)	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 9 ^m 22	[°] 52 ['] 23	^h 9 ^m 36	[°] 24 ['] 29	^h 9 ^m 59	[°] 12 ['] 44
Jan. 1	14 ^s 26 ^s 0 ^s 36	40 ^s 9 ^s 0 ^s 8	50 ^s 97 ^s 0 ^s 28	65 ^s 1 ^s 0 ^s 7	55 ^s 75 ^s 0 ^s 27	23 ^s 3 ^s 1 ^s 4
11	14 ^s 62 ^s 0 ^s 28	41 ^s 7 ^s 1 ^s 2	51 ^s 25 ^s 0 ^s 23	64 ^s 4 ^s 0 ^s 4	56 ^s 02 ^s 0 ^s 23	21 ^s 9 ^s 1 ^s 2
21	14 ^s 90 ^s 0 ^s 21	42 ^s 9 ^s 1 ^s 5	51 ^s 48 ^s 0 ^s 17	64 ^s 0 ^s 0 ^s 1	56 ^s 25 ^s 0 ^s 19	20 ^s 7 ^s 0 ^s 3
31	15 ^s 11 ^s 0 ^s 13	44 ^s 4 ^s 1 ^s 8	51 ^s 65 ^s 0 ^s 13	63 ^s 9 ^s 0 ^s 1	56 ^s 44 ^s 0 ^s 14	19 ^s 8 ^s 0 ^s 7
Feb. 10	15 ^s 24 ^s 0 ^s 06	46 ^s 2 ^s 1 ^s 9	51 ^s 78 ^s 0 ^s 06	64 ^s 0 ^s 0 ^s 4	56 ^s 58 ^s 0 ^s 09	19 ^s 1 ^s 0 ^s 3
20	15 ^s 30 ^s 0 ^s 02	48 ^s 1 ^s 2 ^s 0	51 ^s 84 ^s 0 ^s 02	64 ^s 4 ^s 0 ^s 6	56 ^s 67 ^s 0 ^s 03	18 ^s 8 ^s 0 ^s 2
Mar. 2	15 ^s 28 ^s 0 ^s 09	50 ^s 1 ^s 1 ^s 9	51 ^s 86 ^s 0 ^s 03	65 ^s 0 ^s 0 ^s 7	56 ^s 70 ^s 0 ^s 00	18 ^s 6 ^s 0 ^s 1
12	15 ^s 19 ^s 0 ^s 15	52 ^s 0 ^s 1 ^s 8	51 ^s 83 ^s 0 ^s 07	65 ^s 7 ^s 0 ^s 8	56 ^s 70 ^s 0 ^s 05	18 ^s 7 ^s 0 ^s 3
22	15 ^s 04 ^s 0 ^s 20	53 ^s 8 ^s 1 ^s 6	51 ^s 76 ^s 0 ^s 10	66 ^s 5 ^s 0 ^s 8	56 ^s 65 ^s 0 ^s 07	19 ^s 0 ^s 0 ^s 3
Apr. 1	14 ^s 84 ^s 0 ^s 23	55 ^s 4 ^s 1 ^s 4	51 ^s 66 ^s 0 ^s 12	67 ^s 3 ^s 0 ^s 8	56 ^s 58 ^s 0 ^s 10	19 ^s 3 ^s 0 ^s 5
11	14 ^s 61 ^s 0 ^s 24	56 ^s 8 ^s 1 ^s 0	51 ^s 54 ^s 0 ^s 14	68 ^s 1 ^s 0 ^s 7	56 ^s 48 ^s 0 ^s 11	19 ^s 8 ^s 0 ^s 5
21	14 ^s 37 ^s 0 ^s 26	57 ^s 8 ^s 0 ^s 7	51 ^s 40 ^s 0 ^s 15	68 ^s 8 ^s 0 ^s 7	56 ^s 37 ^s 0 ^s 13	20 ^s 3 ^s 0 ^s 5
May 1	14 ^s 11 ^s 0 ^s 25	58 ^s 5 ^s 0 ^s 3	51 ^s 25 ^s 0 ^s 14	69 ^s 5 ^s 0 ^s 5	56 ^s 24 ^s 0 ^s 12	20 ^s 8 ^s 0 ^s 6
11	13 ^s 86 ^s 0 ^s 24	58 ^s 8 ^s 0 ^s 1	51 ^s 11 ^s 0 ^s 13	70 ^s 0 ^s 0 ^s 4	56 ^s 12 ^s 0 ^s 12	21 ^s 4 ^s 0 ^s 5
21	13 ^s 62 ^s 0 ^s 20	58 ^s 7 ^s 0 ^s 5	50 ^s 98 ^s 0 ^s 11	70 ^s 4 ^s 0 ^s 2	56 ^s 00 ^s 0 ^s 10	21 ^s 9 ^s 0 ^s 4
31	13 ^s 42 ^s 0 ^s 18	58 ^s 2 ^s 0 ^s 9	50 ^s 87 ^s 0 ^s 09	70 ^s 6 ^s 0 ^s 1	55 ^s 90 ^s 0 ^s 09	22 ^s 3 ^s 0 ^s 4
June 10	13 ^s 24 ^s 0 ^s 14	57 ^s 3 ^s 1 ^s 2	50 ^s 78 ^s 0 ^s 08	70 ^s 7 ^s 0 ^s 1	55 ^s 81 ^s 0 ^s 08	22 ^s 7 ^s 0 ^s 3
20	13 ^s 10 ^s 0 ^s 09	56 ^s 1 ^s 1 ^s 5	50 ^s 70 ^s 0 ^s 04	70 ^s 6 ^s 0 ^s 2	55 ^s 73 ^s 0 ^s 05	23 ^s 0 ^s 0 ^s 3
30	13 ^s 01 ^s 0 ^s 05	54 ^s 6 ^s 1 ^s 7	50 ^s 66 ^s 0 ^s 02	70 ^s 4 ^s 0 ^s 4	55 ^s 68 ^s 0 ^s 03	23 ^s 3 ^s 0 ^s 1
July 10	12 ^s 96 ^s 0 ^s 00	52 ^s 9 ^s 2 ^s 0	50 ^s 64 ^s 0 ^s 00	70 ^s 0 ^s 0 ^s 6	55 ^s 65 ^s 0 ^s 01	23 ^s 4 ^s 0 ^s 1
20	12 ^s 96 ^s 0 ^s 04	50 ^s 9 ^s 2 ^s 2	50 ^s 64 ^s 0 ^s 04	69 ^s 4 ^s 0 ^s 7	55 ^s 64 ^s 0 ^s 01	23 ^s 5 ^s 0 ^s 1
30	13 ^s 00 ^s 0 ^s 09	48 ^s 7 ^s 2 ^s 4	50 ^s 68 ^s 0 ^s 07	68 ^s 7 ^s 0 ^s 8	55 ^s 65 ^s 0 ^s 03	23 ^s 4 ^s 0 ^s 1
Aug. 9	13 ^s 09 ^s 0 ^s 16	46 ^s 3 ^s 2 ^s 7	50 ^s 75 ^s 0 ^s 10	67 ^s 9 ^s 1 ^s 1	55 ^s 68 ^s 0 ^s 08	23 ^s 3 ^s 0 ^s 4
19	13 ^s 25 ^s 0 ^s 19	43 ^s 6 ^s 2 ^s 5	50 ^s 85 ^s 0 ^s 13	66 ^s 8 ^s 1 ^s 1	55 ^s 76 ^s 0 ^s 10	22 ^s 9 ^s 0 ^s 5
29	13 ^s 44 ^s 0 ^s 24	41 ^s 1 ^s 2 ^s 6	50 ^s 98 ^s 0 ^s 16	65 ^s 7 ^s 1 ^s 3	55 ^s 86 ^s 0 ^s 13	22 ^s 4 ^s 0 ^s 7
Sept. 8	13 ^s 68 ^s 0 ^s 28	38 ^s 5 ^s 2 ^s 6	51 ^s 14 ^s 0 ^s 19	64 ^s 4 ^s 1 ^s 4	55 ^s 99 ^s 0 ^s 15	21 ^s 7 ^s 0 ^s 9
18	13 ^s 96 ^s 0 ^s 32	35 ^s 9 ^s 2 ^s 4	51 ^s 33 ^s 0 ^s 22	63 ^s 0 ^s 1 ^s 6	56 ^s 14 ^s 0 ^s 19	20 ^s 8 ^s 1 ^s 0
28	14 ^s 28 ^s 0 ^s 37	33 ^s 5 ^s 2 ^s 4	51 ^s 55 ^s 0 ^s 26	61 ^s 4 ^s 1 ^s 7	56 ^s 33 ^s 0 ^s 22	19 ^s 8 ^s 1 ^s 3
Oct. 8	14 ^s 65 ^s 0 ^s 40	31 ^s 1 ^s 2 ^s 3	51 ^s 81 ^s 0 ^s 28	59 ^s 7 ^s 1 ^s 7	56 ^s 55 ^s 0 ^s 25	18 ^s 5 ^s 1 ^s 5
18	15 ^s 05 ^s 0 ^s 44	28 ^s 8 ^s 2 ^s 0	52 ^s 09 ^s 0 ^s 31	58 ^s 0 ^s 1 ^s 8	56 ^s 80 ^s 0 ^s 28	17 ^s 0 ^s 1 ^s 6
28	15 ^s 49 ^s 0 ^s 46	26 ^s 8 ^s 1 ^s 7	52 ^s 40 ^s 0 ^s 33	56 ^s 2 ^s 1 ^s 9	57 ^s 08 ^s 0 ^s 31	15 ^s 4 ^s 1 ^s 8
Nov. 7	15 ^s 95 ^s 0 ^s 48	25 ^s 1 ^s 1 ^s 5	52 ^s 73 ^s 0 ^s 34	54 ^s 3 ^s 1 ^s 8	57 ^s 39 ^s 0 ^s 32	13 ^s 6 ^s 1 ^s 9
17	16 ^s 43 ^s 0 ^s 48	23 ^s 6 ^s 1 ^s 0	53 ^s 07 ^s 0 ^s 36	52 ^s 5 ^s 1 ^s 7	57 ^s 71 ^s 0 ^s 33	11 ^s 7 ^s 1 ^s 9
27	16 ^s 91 ^s 0 ^s 48	22 ^s 6 ^s 0 ^s 7	53 ^s 43 ^s 0 ^s 35	50 ^s 8 ^s 1 ^s 5	58 ^s 04 ^s 0 ^s 34	9 ^s 8 ^s 2 ^s 0
Dec. 7	17 ^s 39 ^s 0 ^s 46	21 ^s 9 ^s 0 ^s 2	53 ^s 78 ^s 0 ^s 34	49 ^s 3 ^s 1 ^s 4	58 ^s 38 ^s 0 ^s 33	7 ^s 8 ^s 1 ^s 8
17	17 ^s 85 ^s 0 ^s 42	21 ^s 7 ^s 0 ^s 2	54 ^s 12 ^s 0 ^s 33	47 ^s 9 ^s 1 ^s 1	58 ^s 71 ^s 0 ^s 32	6 ^s 0 ^s 1 ^s 7
27	18 ^s 27 ^s 0 ^s 38	21 ^s 9 ^s 0 ^s 6	54 ^s 45 ^s 0 ^s 29	46 ^s 8 ^s 0 ^s 9	59 ^s 03 ^s 0 ^s 29	4 ^s 3 ^s 1 ^s 5
37	18 ^s 65 ^s 0 ^s 38	22 ^s 5 ^s 0 ^s 6	54 ^s 74 ^s 0 ^s 29	45 ^s 9 ^s 0 ^s 9	59 ^s 32 ^s 0 ^s 29	2 ^s 8 ^s 1 ^s 5

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	η Argus.		α URSAE MAJORIS.		δ LEONIS.	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 10 ^m 38	^o 58 ⁱ 50	^h 10 ^m 53	^o 62 ⁱ 35	^h 11 ^m 5	^o 21 ⁱ 23
Jan. 1	55 ^s 89 ^s 0 ^s 42	48 ["] 1 ["] 3 ["] 2	54 ^s 67 ^s 0 ^s 55	69 ["] 1 ["] 0 ["] 3	40 ^s 11 ^s 0 ^s 32	29 ["] 7 ["] 1 ["] 4
11	56 ^s 31 ^s 0 ^s 35	51 ["] 3 ["] 3 ["] 5	55 ^s 22 ^s 0 ^s 48	69 ["] 4 ["] 0 ["] 9	40 ^s 43 ^s 0 ^s 29	28 ["] 3 ["] 1 ["] 0
21	56 ^s 66 ^s 0 ^s 28	54 ["] 8 ["] 3 ["] 6	55 ^s 70 ^s 0 ^s 42	70 ["] 3 ["] 1 ["] 4	40 ^s 72 ^s 0 ^s 26	27 ["] 3 ["] 0 ["] 7
31	56 ^s 94 ^s 0 ^s 21	58 ["] 4 ["] 3 ["] 8	56 ^s 12 ^s 0 ^s 33	71 ["] 7 ["] 1 ["] 8	40 ^s 98 ^s 0 ^s 20	26 ["] 6 ["] 0 ["] 3
Feb. 10	57 ^s 15 ^s 0 ^s 13	62 ["] 2 ["] 3 ["] 8	56 ^s 45 ^s 0 ^s 23	73 ["] 5 ["] 2 ["] 2	41 ^s 18 ^s 0 ^s 16	26 ["] 3 ["] 0 ["] 1
20	57 ^s 28 ^s 0 ^s 05	66 ["] 0 ["] 3 ["] 7	56 ^s 68 ^s 0 ^s 14	75 ["] 7 ["] 2 ["] 5	41 ^s 34 ^s 0 ^s 11	26 ["] 4 ["] 0 ["] 3
Mar. 2	57 ^s 33 ^s 0 ^s 02	69 ["] 7 ["] 3 ["] 5	56 ^s 82 ^s 0 ^s 04	78 ["] 2 ["] 2 ["] 5	41 ^s 45 ^s 0 ^s 06	26 ["] 7 ["] 0 ["] 5
12	57 ^s 31 ^s 0 ^s 09	73 ["] 2 ["] 3 ["] 4	56 ^s 86 ^s 0 ^s 04	80 ["] 7 ["] 2 ["] 6	41 ^s 51 ^s 0 ^s 02	27 ["] 2 ["] 0 ["] 8
22	57 ^s 22 ^s 0 ^s 14	76 ["] 6 ["] 3 ["] 0	56 ^s 82 ^s 0 ^s 14	83 ["] 3 ["] 2 ["] 5	41 ^s 53 ^s 0 ^s 02	28 ["] 0 ["] 0 ["] 9
Apr. 1	57 ^s 08 ^s 0 ^s 19	79 ["] 6 ["] 2 ["] 6	56 ^s 68 ^s 0 ^s 20	85 ["] 8 ["] 2 ["] 3	41 ^s 51 ^s 0 ^s 05	28 ["] 9 ["] 1 ["] 0
11	56 ^s 89 ^s 0 ^s 24	82 ["] 2 ["] 2 ["] 3	56 ^s 48 ^s 0 ^s 25	88 ["] 1 ["] 2 ["] 0	41 ^s 46 ^s 0 ^s 08	29 ["] 9 ["] 1 ["] 1
21	56 ^s 65 ^s 0 ^s 26	84 ["] 5 ["] 1 ["] 8	56 ^s 23 ^s 0 ^s 30	90 ["] 1 ["] 1 ["] 7	41 ^s 38 ^s 0 ^s 10	31 ["] 0 ["] 0 ["] 9
May 1	56 ^s 39 ^s 0 ^s 28	86 ["] 3 ["] 1 ["] 4	55 ^s 93 ^s 0 ^s 33	91 ["] 8 ["] 1 ["] 3	41 ^s 28 ^s 0 ^s 11	31 ["] 9 ["] 1 ["] 0
11	56 ^s 11 ^s 0 ^s 30	87 ["] 7 ["] 0 ["] 9	55 ^s 60 ^s 0 ^s 34	93 ["] 1 ["] 0 ["] 8	41 ^s 17 ^s 0 ^s 11	32 ["] 9 ["] 0 ["] 8
21	55 ^s 81 ^s 0 ^s 31	88 ["] 6 ["] 0 ["] 4	55 ^s 26 ^s 0 ^s 35	93 ["] 9 ["] 0 ["] 3	41 ^s 06 ^s 0 ^s 11	33 ["] 7 ["] 0 ["] 7
31	55 ^s 50 ^s 0 ^s 30	89 ["] 0 ["] 0 ["] 1	54 ^s 91 ^s 0 ^s 33	94 ["] 2 ["] 0 ["] 2	40 ^s 95 ^s 0 ^s 11	34 ["] 4 ["] 0 ["] 5
June 10	55 ^s 20 ^s 0 ^s 29	88 ["] 9 ["] 0 ["] 6	54 ^s 58 ^s 0 ^s 31	94 ["] 0 ["] 0 ["] 6	40 ^s 84 ^s 0 ^s 11	34 ["] 9 ["] 0 ["] 3
20	54 ^s 91 ^s 0 ^s 27	88 ["] 3 ["] 1 ["] 1	54 ^s 27 ^s 0 ^s 29	93 ["] 4 ["] 1 ["] 1	40 ^s 73 ^s 0 ^s 09	35 ["] 2 ["] 0 ["] 2
30	54 ^s 64 ^s 0 ^s 25	87 ["] 2 ["] 1 ["] 5	53 ^s 98 ^s 0 ^s 24	92 ["] 3 ["] 1 ["] 5	40 ^s 64 ^s 0 ^s 08	35 ["] 4 ["] 0 ["] 0
July 10	54 ^s 39 ^s 0 ^s 21	85 ["] 7 ["] 1 ["] 9	53 ^s 74 ^s 0 ^s 20	90 ["] 8 ["] 1 ["] 9	40 ^s 56 ^s 0 ^s 06	35 ["] 4 ["] 0 ["] 2
20	54 ^s 18 ^s 0 ^s 17	83 ["] 8 ["] 2 ["] 2	53 ^s 54 ^s 0 ^s 15	88 ["] 9 ["] 2 ["] 3	40 ^s 50 ^s 0 ^s 05	35 ["] 2 ["] 0 ["] 5
30	54 ^s 01 ^s 0 ^s 13	81 ["] 6 ["] 2 ["] 5	53 ^s 39 ^s 0 ^s 10	86 ["] 6 ["] 2 ["] 6	40 ^s 45 ^s 0 ^s 02	34 ["] 7 ["] 0 ["] 6
Aug. 9	53 ^s 88 ^s 0 ^s 06	79 ["] 1 ["] 2 ["] 7	53 ^s 29 ^s 0 ^s 04	84 ["] 0 ["] 2 ["] 9	40 ^s 43 ^s 0 ^s 00	34 ["] 1 ["] 0 ["] 8
19	53 ^s 82 ^s 0 ^s 00	76 ["] 4 ["] 2 ["] 8	53 ^s 25 ^s 0 ^s 01	81 ["] 1 ["] 3 ["] 1	40 ^s 43 ^s 0 ^s 03	33 ["] 3 ["] 1 ["] 1
29	53 ^s 82 ^s 0 ^s 07	73 ["] 6 ["] 3 ["] 0	53 ^s 26 ^s 0 ^s 10	78 ["] 0 ["] 3 ["] 5	40 ^s 46 ^s 0 ^s 06	32 ["] 2 ["] 1 ["] 4
Sept. 8	53 ^s 89 ^s 0 ^s 15	70 ["] 6 ["] 2 ["] 6	53 ^s 36 ^s 0 ^s 15	74 ["] 5 ["] 3 ["] 4	40 ^s 52 ^s 0 ^s 09	30 ["] 8 ["] 1 ["] 4
18	54 ^s 04 ^s 0 ^s 22	68 ["] 0 ["] 2 ["] 3	53 ^s 51 ^s 0 ^s 23	71 ["] 1 ["] 3 ["] 3	40 ^s 61 ^s 0 ^s 13	29 ["] 4 ["] 1 ["] 7
28	54 ^s 26 ^s 0 ^s 29	65 ["] 7 ["] 2 ["] 0	53 ^s 74 ^s 0 ^s 29	67 ["] 8 ["] 3 ["] 4	40 ^s 74 ^s 0 ^s 17	27 ["] 7 ["] 1 ["] 9
Oct. 8	54 ^s 55 ^s 0 ^s 36	63 ["] 7 ["] 1 ["] 5	54 ^s 03 ^s 0 ^s 35	64 ["] 4 ["] 3 ["] 2	40 ^s 91 ^s 0 ^s 20	25 ["] 8 ["] 2 ["] 0
18	54 ^s 91 ^s 0 ^s 41	62 ["] 2 ["] 1 ["] 0	54 ^s 38 ^s 0 ^s 43	61 ["] 2 ["] 3 ["] 0	41 ^s 1 ^s 0 ^s 21	23 ["] 8 ["] 2 ["] 1
28	55 ^s 32 ^s 0 ^s 47	61 ["] 2 ["] 0 ["] 5	54 ^s 81 ^s 0 ^s 48	58 ["] 2 ["] 2 ["] 8		1 ["] 7 ["] 2 ["] 3
Nov. 7	55 ^s 79 ^s 0 ^s 51	60 ["] 7 ["] 0 ["] 2	55 ^s 29 ^s 0 ^s 53	55 ["] 4 ["] 2 ["] 5		9 ["] 4 ["] 2 ["] 2
17	56 ^s 30 ^s 0 ^s 53	60 ["] 9 ["] 0 ["] 8	55 ^s 82 ^s 0 ^s 57	52 ["] 9 ["] 2 ["] 3		2 ["] 2 ["] 3
27	56 ^s 83 ^s 0 ^s 53	61 ["] 7 ["] 1 ["] 4	56 ^s 39 ^s 0 ^s 59	50 ["] 9 ["] 1 ["] 1		2 ["] 1 ["] 1
Dec. 7	57 ^s 36 ^s 0 ^s 51	63 ["] 1 ["] 2 ["] 0	56 ^s 98 ^s 0 ^s 61	49 ["] 3 ["] 1 ["] 1		2 ["] 0 ["] 1
17	57 ^s 87 ^s 0 ^s 49	65 ["] 1 ["] 2 ["] 6	57 ^s 59 ^s 0 ^s 59	48 ["] 2 ["] 0 ["] 0		1 ["] 8 ["] 1
27	58 ^s 36 ^s 0 ^s 45	67 ["] 7 ["] 2 ["] 9	58 ^s 18 ^s 0 ^s 56	47 ["] 8 ["] 0 ["] 0		
37	58 ^s 81 ^s 0 ^s 45	70 ["] 6 ["] 2 ["] 9	58 ^s 74 ^s 0 ^s 56	47 ["] 8 ["] 0 ["] 0		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	δ Hydre et Crateris.		β LEONIS.		γ URSÆ MAJORIS.	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 11 ^m 11	^o 13 ⁱ 55	^h 11 ^m 40	^o 15 ⁱ 27	^h 11 ^m 45	^o 54 ⁱ 34
Jan. 1	25 ^s 02 ^s 0 ^s 31	8 ^s 0 ^s 2 ^s 5	57 ^s 97 ^s 0 ^s 33	27 ^s 4 ^s 1 ^s 7	28 ^s 18 ^s 0 ^s 48	22 ^s 1 ^s 0 ^s 6
11	25 33 0 ^s 28	10 5 2 ^s 4	58 30 0 ^s 30	25 7 1 ^s 4	28 66 0 ^s 45	21 5 0 ^s 1
21	25 61 0 ^s 24	12 9 2 ^s 3	58 60 0 ^s 27	24 3 1 ^s 1	29 11 0 ^s 39	21 6 0 ^s 6
31	25 85 0 ^s 20	15 2 2 ^s 2	58 87 0 ^s 23	23 2 0 ^s 8	29 50 0 ^s 35	22 2 1 ^s 1
Feb. 10	26 05 0 ^s 15	17 4 2 ^s 1	59 10 0 ^s 19	22 4 0 ^s 4	29 85 0 ^s 27	23 3 1 ^s 6
20	26 20 0 ^s 10	19 5 1 ^s 8	59 29 0 ^s 14	22 0 0 ^s 1	30 12 0 ^s 21	24 9 1 ^s 9
Mar. 2	26 30 0 ^s 07	21 3 1 ^s 6	59 43 0 ^s 10	21 9 0 ^s 2	30 33 0 ^s 12	26 8 2 ^s 3
12	26 37 0 ^s 02	22 9 1 ^s 3	59 53 0 ^s 05	22 1 0 ^s 5	30 45 0 ^s 06	29 1 2 ^s 4
22	26 39 0 ^s 01	24 2 1 ^s 0	59 58 0 ^s 01	22 6 0 ^s 6	30 51 0 ^s 01	31 5 2 ^s 4
Apr. 1	26 38 0 ^s 04	25 2 0 ^s 9	59 59 0 ^s 01	23 2 0 ^s 8	30 50 0 ^s 03	33 9 2 ^s 5
11	26 34 0 ^s 07	26 1 0 ^s 5	59 58 0 ^s 05	24 0 0 ^s 9	30 42 0 ^s 13	36 4 2 ^s 3
21	26 27 0 ^s 08	26 6 0 ^s 4	59 53 0 ^s 07	24 9 0 ^s 9	30 29 0 ^s 17	38 7 2 ^s 0
May 1	26 19 0 ^s 09	27 0 0 ^s 1	59 46 0 ^s 08	25 8 0 ^s 9	30 12 0 ^s 20	40 7 1 ^s 8
11	26 10 0 ^s 10	27 1 0 ^s 1	59 38 0 ^s 09	26 7 0 ^s 9	29 92 0 ^s 23	42 5 1 ^s 4
21	26 00 0 ^s 10	27 0 0 ^s 2	59 29 0 ^s 10	27 6 0 ^s 7	29 69 0 ^s 24	43 9 1 ^s 0
31	25 90 0 ^s 10	26 8 0 ^s 5	59 19 0 ^s 10	28 3 0 ^s 7	29 45 0 ^s 25	44 9 0 ^s 6
June 10	25 80 0 ^s 10	26 3 0 ^s 6	59 09 0 ^s 10	29 0 0 ^s 6	29 20 0 ^s 25	45 5 0 ^s 1
20	25 70 0 ^s 09	25 7 0 ^s 8	58 99 0 ^s 10	29 6 0 ^s 4	28 95 0 ^s 23	45 6 0 ^s 3
30	25 61 0 ^s 08	24 9 0 ^s 9	58 89 0 ^s 09	30 0 0 ^s 2	28 72 0 ^s 23	45 3 0 ^s 8
July 10	25 53 0 ^s 07	24 0 1 ^s 0	58 80 0 ^s 08	30 2 0 ^s 1	28 49 0 ^s 20	44 5 1 ^s 2
20	25 46 0 ^s 06	23 0 1 ^s 0	58 72 0 ^s 07	30 3 0 ^s 0	28 29 0 ^s 17	43 3 1 ^s 6
30	25 40 0 ^s 03	22 0 1 ^s 1	58 65 0 ^s 05	30 3 0 ^s 3	28 12 0 ^s 14	41 7 1 ^s 9
Aug. 9	25 37 0 ^s 01	20 9 1 ^s 0	58 60 0 ^s 03	30 0 0 ^s 5	27 98 0 ^s 11	39 8 2 ^s 4
19	25 36 0 ^s 01	19 9 0 ^s 9	58 57 0 ^s 01	29 5 0 ^s 7	27 87 0 ^s 06	37 4 2 ^s 6
29	25 37 0 ^s 05	19 0 0 ^s 9	58 56 0 ^s 02	28 8 0 ^s 9	27 81 0 ^s 02	34 8 2 ^s 9
Sept. 8	25 42 0 ^s 08	18 1 0 ^s 6	58 58 0 ^s 05	27 9 1 ^s 2	27 79 0 ^s 04	31 9 3 ^s 4
18	25 50 0 ^s 12	17 5 0 ^s 4	* 58 63 0 ^s 09	26 7 1 ^s 4	* 27 83 0 ^s 09	28 5 3 ^s 2
28	25 62 0 ^s 16	17 1 0 ^s 1	58 72 0 ^s 12	25 3 1 ^s 6	27 92 0 ^s 15	25 3 3 ^s 4
Oct. 8	25 78 0 ^s 20	17 0 0 ^s 3	58 84 0 ^s 17	23 7 1 ^s 8	28 07 0 ^s 21	21 9 3 ^s 3
18	25 98 0 ^s 23	17 3 0 ^s 6	59 01 0 ^s 20	21 9 2 ^s 0	28 28 0 ^s 28	18 6 3 ^s 4
28	26 21 0 ^s 27	17 9 1 ^s 0	59 21 0 ^s 24	19 9 2 ^s 1	28 56 0 ^s 32	15 2 3 ^s 1
Nov. 7	26 48 0 ^s 30	18 9 1 ^s 3	59 45 0 ^s 28	17 8 2 ^s 3	28 88 0 ^s 39	12 1 3 ^s 0
17	26 78 0 ^s 32	20 2 1 ^s 6	59 73 0 ^s 31	15 5 2 ^s 2	29 27 0 ^s 42	9 1 2 ^s 7
27	27 10 0 ^s 34	21 8 2 ^s 0	60 04 0 ^s 33	13 3 2 ^s 3	29 69 0 ^s 47	6 4 2 ^s 3
Dec. 7	27 44 0 ^s 34	23 8 2 ^s 2	60 37 0 ^s 34	11 0 2 ^s 2	30 16 0 ^s 48	4 1 1 ^s 8
17	27 78 0 ^s 34	26 0 2 ^s 3	60 71 0 ^s 34	8 8 2 ^s 1	30 64 0 ^s 50	2 3 1 ^s 4
27	28 12 0 ^s 32	28 3 2 ^s 4	61 05 0 ^s 33	6 7 1 ^s 8	31 14 0 ^s 48	0 9 0 ^s 8
37	28 44 0 ^s 32	30 7 2 ^s 4	61 38 0 ^s 33	4 9 1 ^s 8	31 62 0 ^s 48	0 1 0 ^s 8

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β Chamæleontis.		α^1 Crucis.		β Corvi.	
	R. A.	Dec. South.	R. A.	Dec. South.	R. A.	Dec. South.
	^h 12 9 ^m	^o 78 25 ⁱ	^h 12 17 ^m	^o 62 12 ⁱ	^h 12 26 ^m	^o 22 30 ⁱ
Jan. 1	9 ^s 82 ^s	31 ["] 5 ["]	48 ^s 81 ^s	47 ["] 8 ["]	3 ^s 48 ^s	54 ["] 9 ["]
11	11 ^s 00 ^s	33 ["] 4 ["]	49 ^s 38 ^s	49 ["] 8 ["]	3 ^s 83 ^s	57 ["] 2 ["]
21	12 ^s 08 ^s	35 ["] 8 ["]	49 ^s 92 ^s	52 ["] 4 ["]	4 ^s 16 ^s	59 ["] 5 ["]
31	13 ^s 05 ^s	38 ["] 7 ["]	50 ^s 41 ^s	55 ["] 3 ["]	4 ^s 46 ^s	62 ["] 0 ["]
	0 ^s 82 ^s	3 ["] 3 ["]	0 ^s 42 ^s	3 ["] 2 ["]	0 ^s 27 ^s	2 ["] 4 ["]
Feb. 10	13 ^s 87 ^s	42 ["] 0 ["]	50 ^s 83 ^s	58 ["] 5 ["]	4 ^s 73 ^s	64 ["] 4 ["]
20	14 ^s 55 ^s	45 ["] 5 ["]	51 ^s 19 ^s	61 ["] 9 ["]	4 ^s 96 ^s	66 ["] 7 ["]
Mar. 2	15 ^s 06 ^s	49 ["] 3 ["]	51 ^s 47 ^s	65 ["] 5 ["]	5 ^s 15 ^s	68 ["] 8 ["]
12	15 ^s 41 ^s	53 ["] 1 ["]	51 ^s 68 ^s	69 ["] 1 ["]	5 ^s 30 ^s	70 ["] 8 ["]
	0 ^s 18 ^s	3 ["] 9 ["]	0 ^s 13 ^s	3 ["] 5 ["]	0 ^s 10 ^s	1 ["] 8 ["]
22	15 ^s 59 ^s	57 ["] 0 ["]	51 ^s 81 ^s	72 ["] 6 ["]	5 ^s 40 ^s	72 ["] 6 ["]
Apr. 1	15 ^s 61 ^s	60 ["] 8 ["]	51 ^s 88 ^s	76 ["] 0 ["]	5 ^s 47 ^s	74 ["] 2 ["]
11	15 ^s 47 ^s	64 ["] 5 ["]	51 ^s 88 ^s	79 ["] 3 ["]	5 ^s 51 ^s	75 ["] 6 ["]
21	15 ^s 19 ^s	67 ["] 9 ["]	51 ^s 81 ^s	82 ["] 3 ["]	5 ^s 51 ^s	76 ["] 7 ["]
	0 ^s 42 ^s	3 ["] 1 ["]	0 ^s 12 ^s	2 ["] 7 ["]	0 ^s 02 ^s	0 ["] 9 ["]
May 1	14 ^s 77 ^s	71 ["] 0 ["]	51 ^s 69 ^s	85 ["] 0 ["]	5 ^s 49 ^s	77 ["] 6 ["]
11	14 ^s 23 ^s	73 ["] 8 ["]	51 ^s 53 ^s	87 ["] 3 ["]	5 ^s 45 ^s	78 ["] 3 ["]
21	13 ^s 58 ^s	76 ["] 2 ["]	51 ^s 31 ^s	89 ["] 3 ["]	5 ^s 39 ^s	78 ["] 7 ["]
31	12 ^s 84 ^s	78 ["] 2 ["]	51 ^s 06 ^s	90 ["] 9 ["]	5 ^s 31 ^s	78 ["] 9 ["]
	0 ^s 81 ^s	1 ["] 4 ["]	0 ^s 27 ^s	1 ["] 1 ["]	0 ^s 09 ^s	0 ["] 0 ["]
June 10	12 ^s 03 ^s	79 ["] 6 ["]	50 ^s 79 ^s	92 ["] 0 ["]	5 ^s 22 ^s	78 ["] 9 ["]
20	11 ^s 16 ^s	80 ["] 6 ["]	50 ^s 49 ^s	92 ["] 6 ["]	5 ^s 12 ^s	78 ["] 6 ["]
30	10 ^s 27 ^s	80 ["] 9 ["]	50 ^s 17 ^s	92 ["] 7 ["]	5 ^s 02 ^s	78 ["] 2 ["]
July 10	9 ^s 38 ^s	80 ["] 7 ["]	49 ^s 85 ^s	92 ["] 4 ["]	4 ^s 91 ^s	77 ["] 6 ["]
	0 ^s 87 ^s	0 ["] 7 ["]	0 ^s 31 ^s	0 ["] 9 ["]	0 ^s 11 ^s	0 ["] 8 ["]
20	8 ^s 51 ^s	80 ["] 0 ["]	49 ^s 54 ^s	91 ["] 5 ["]	4 ^s 80 ^s	76 ["] 8 ["]
30	7 ^s 69 ^s	78 ["] 8 ["]	49 ^s 24 ^s	90 ["] 2 ["]	4 ^s 70 ^s	75 ["] 8 ["]
Aug. 9	6 ^s 96 ^s	77 ["] 1 ["]	48 ^s 96 ^s	88 ["] 5 ["]	4 ^s 61 ^s	74 ["] 7 ["]
19	6 ^s 33 ^s	74 ["] 9 ["]	48 ^s 73 ^s	86 ["] 5 ["]	4 ^s 53 ^s	73 ["] 5 ["]
	0 ^s 48 ^s	2 ["] 5 ["]	0 ^s 18 ^s	2 ["] 4 ["]	0 ^s 06 ^s	1 ["] 1 ["]
29	5 ^s 85 ^s	72 ["] 4 ["]	48 ^s 55 ^s	84 ["] 1 ["]	4 ^s 47 ^s	72 ["] 4 ["]
Sept. 8	5 ^s 52 ^s	69 ["] 6 ["]	48 ^s 44 ^s	81 ["] 6 ["]	4 ^s 44 ^s	71 ["] 2 ["]
18	5 ^s 37 ^s	66 ["] 7 ["]	48 ^s 40 ^s	79 ["] 0 ["]	4 ^s 44 ^s	70 ["] 2 ["]
28	* 5 ^s 44 ^s	63 ["] 4 ["]	* 48 ^s 44 ^s	76 ["] 0 ["]	* 4 ^s 49 ^s	69 ["] 2 ["]
	0 ^s 27 ^s	2 ["] 9 ["]	0 ^s 14 ^s	2 ["] 5 ["]	0 ^s 08 ^s	0 ["] 7 ["]
Oct. 8	5 ^s 71 ^s	60 ["] 5 ["]	48 ^s 58 ^s	73 ["] 5 ["]	4 ^s 57 ^s	68 ["] 5 ["]
18	6 ^s 19 ^s	57 ["] 8 ["]	48 ^s 81 ^s	71 ["] 2 ["]	4 ^s 71 ^s	
28	6 ^s 86 ^s	55 ["] 4 ["]	49 ^s 12 ^s	69 ["] 2 ["]	4 ^s 89 ^s	
Nov. 7	7 ^s 71 ^s	53 ["] 4 ["]	49 ^s 52 ^s	67 ["] 7 ["]	5 ^s 1 ^s	
	0 ^s 99 ^s	1 ["] 4 ["]	0 ^s 47 ^s	1 ["] 1 ["]		
17	8 ^s 70 ^s	52 ["] 0 ["]	49 ^s 99 ^s	66 ["] 6 ["]		
27	9 ^s 82 ^s	51 ["] 1 ["]	50 ^s 52 ^s	66 ["] 1 ["]		
Dec. 7	11 ^s 02 ^s	50 ["] 8 ["]	51 ^s 09 ^s	66 ["] 2 ["]		
17	12 ^s 27 ^s	51 ["] 1 ["]	51 ^s 69 ^s	66 ["] 9 ["]		
	1 ^s 24 ^s	1 ["] 0 ["]	0 ^s 60 ^s	1 ["] 3 ["]		
27	13 ^s 51 ^s	52 ["] 1 ["]	52 ^s 29 ^s	68 ["] 2 ["]		
37	14 ^s 72 ^s	53 ["] 7 ["]	52 ^s 88 ^s	70 ["] 0 ["]		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	12 Canum Venaticorum.		α VIRGINIS. (Spica)		η URSÆ MAJORIS	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. N.
	^h 12 ^m 48	^o 39 ['] 10	^h 13 ^m 16	^o 10 ['] 19	^h 13 ^m 41	^o 50
Jan. 1	35° 88' 0" 39	22° 6' 0" 16	49° 95' 0" 34	49° 9' 2" 0	16° 50' 0" 44	69° 1'
11	36° 27' 0" 38	21° 0' 0" 10	50° 29' 0" 34	51° 9' 2" 1	16° 94' 0" 44	67° 2'
21	36° 65' 0" 36	20° 0' 0" 6	50° 63' 0" 31	54° 0' 1" 9	17° 38' 0" 43	65° 9'
31	37° 01' 0" 33	19° 4' 0" 0	50° 94' 0" 29	55° 9' 1" 9	17° 81' 0" 40	65° 1'
Feb. 10	37° 34' 0" 28	19° 4' 0" 5	51° 23' 0" 27	57° 8' 1" 7	18° 21' 0" 37	65° 0'
20	37° 62' 0" 24	19° 9' 0" 9	51° 50' 0" 22	59° 5' 1" 5	18° 58' 0" 32	65° 5'
Mar. 2	37° 86' 0" 18	20° 8' 1" 4	51° 72' 0" 19	61° 0' 1" 3	18° 90' 0" 28	66° 6'
12	38° 04' 0" 14	22° 2' 1" 7	51° 91' 0" 16	62° 3' 1" 0	19° 18' 0" 21	68° 1'
22	38° 18' 0" 08	23° 9' 1" 9	52° 07' 0" 12	63° 3' 0" 8	19° 39' 0" 16	70° 1'
Apr. 1	38° 26' 0" 04	25° 8' 2" 2	52° 19' 0" 08	64° 1' 0" 6	19° 55' 0" 10	72° 4'
11	38° 30' 0" 01	28° 0' 2" 1	52° 27' 0" 06	64° 7' 0" 4	19° 65' 0" 05	74° 9'
21	38° 29' 0" 04	30° 1' 2" 1	52° 33' 0" 03	65° 1' 0" 2	19° 70' 0" 01	77° 6'
May 1	38° 25' 0" 08	32° 2' 2" 0	52° 36' 0" 00	65° 3' 0" 0	19° 69' 0" 05	80° 3'
11	38° 17' 0" 10	34° 2' 1" 8	52° 36' 0" 01	65° 3' 0" 0	19° 64' 0" 10	82° 8'
21	38° 07' 0" 12	36° 0' 1" 6	52° 35' 0" 04	65° 3' 0" 3	19° 54' 0" 14	85° 2'
31	37° 95' 0" 14	37° 6' 1" 2	52° 31' 0" 06	65° 0' 0" 3	19° 40' 0" 16	87° 4'
June 10	37° 81' 0" 16	38° 8' 1" 0	52° 25' 0" 07	64° 7' 0" 4	19° 24' 0" 20	89° 2'
20	37° 65' 0" 16	39° 8' 0" 5	52° 18' 0" 08	64° 3' 0" 5	19° 04' 0" 21	90° 7'
30	37° 49' 0" 16	40° 3' 0" 2	52° 10' 0" 10	63° 8' 0" 5	18° 83' 0" 23	91° 7'
July 10	37° 33' 0" 16	40° 5' 0" 1	52° 00' 0" 10	63° 3' 0" 6	18° 60' 0" 24	92° 3'
20	37° 17' 0" 15	40° 4' 0" 6	51° 90' 0" 10	62° 7' 0" 6	18° 36' 0" 24	92° 5'
30	37° 02' 0" 15	39° 8' 0" 9	51° 80' 0" 11	62° 1' 0" 6	18° 12' 0" 25	92° 2'
Aug. 9	36° 87' 0" 13	38° 9' 1" 3	51° 69' 0" 10	61° 5' 0" 6	17° 87' 0" 22	91° 4'
19	36° 74' 0" 10	37° 6' 1" 7	51° 59' 0" 08	60° 9' 0" 6	17° 65' 0" 21	90° 2'
29	36° 64' 0" 08	35° 9' 2" 0	51° 51' 0" 07	60° 3' 0" 5	17° 44' 0" 19	88° 6'
Sept. 8	36° 56' 0" 04	33° 9' 2" 2	51° 44' 0" 04	59° 8' 0" 3	17° 25' 0" 15	86° 5'
18	36° 52' 0" 01	31° 7' 2" 6	51° 40' 0" 01	59° 5' 0" 3	17° 10' 0" 11	84° 1'
28	36° 51' 0" 04	29° 1' 3" 0	51° 39' 0" 03	59° 2' 0" 0	16° 99' 0" 05	81° 3'
Oct. 8	36° 55' 0" 10	26° 1' 3" 0	51° 42' 0" 07	59° 2' 0" 3	16° 94' 0" 01	78° 3'
18	36° 65' 0" 14	23° 1' 3" 1	51° 49' 0" 12	59° 5' 0" 5	16° 93' 0" 07	74° 6'
28	36° 79' 0" 20	20° 0' 3" 1	51° 61' 0" 17	60° 0' 0" 7	17° 00' 0" 13	71° 2'
Nov. 7	36° 99' 0" 24	16° 9' 3" 2	51° 78' 0" 21	60° 7' 1" 1	17° 13' 0" 19	67° 6'
17	37° 23' 0" 30	13° 7' 3" 0	51° 99' 0" 26	61° 8' 1" 3	17° 32' 0" 26	64° 0'
27	37° 53' 0" 33	10° 7' 2" 9	52° 25' 0" 29	63° 1' 1" 6	17° 58' 0" 30	60° 6'
Dec. 7	37° 86' 0" 36	7° 8' 2" 5	52° 54' 0" 31	64° 7' 1" 8	17° 88' 0" 37	57° 3'
17	38° 22' 0" 39	5° 3' 2" 3	52° 85' 0" 33	66° 5' 1" 9	18° 25' 0" 39	54° 4'
27	38° 61' 0" 39	3° 0' 1" 8	53° 18' 0" 35	68° 4' 2" 0	18° 64' 0" 43	51° 7'
37	39° 00' 0" 39	1° 2' 1" 8	53° 53' 0" 35	70° 4' 2" 0	19° 07' 0" 43	49° 6'

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	η Bootis.		β Centauri.		α Bootis. (Arcturus)	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. North.
	^h 13 ^m 47	[°] 19 ['] 11	^h 13 ^m 52	[°] 59 ['] 35	^h 14 ^m 8	[°] 20 ['] 0
Jan. 1	7 ^s 26 ^s 0 ^s 34	40 ["] 4 ["] 2 ["] 1	39 ^s 55 ^s 0 ^s 58	56 ["] 9 ["] 0 ["] 8	24 ^s 96 ^s 0 ^s 33	30 ["] 7 ["] 2 ["] 3
11	7 ^s 60 ^s 0 ^s 34	38 ["] 3 ["] 1 ["] 9	40 ^s 13 ^s 0 ^s 58	57 ["] 7 ["] 1 ["] 4	25 ^s 29 ^s 0 ^s 34	28 ["] 4 ["] 1 ["] 9
21	7 ^s 94 ^s 0 ^s 33	36 ["] 4 ["] 1 ["] 4	40 ^s 71 ^s 0 ^s 56	59 ["] 1 ["] 1 ["] 8	25 ^s 63 ^s 0 ^s 33	26 ["] 5 ["] 1 ["] 6
31	8 ^s 27 ^s 0 ^s 31	35 ["] 0 ["] 1 ["] 1	41 ^s 27 ^s 0 ^s 53	60 ["] 9 ["] 2 ["] 1	25 ^s 96 ^s 0 ^s 31	24 ["] 9 ["] 1 ["] 2
Feb. 10	8 ^s 58 ^s 0 ^s 29	33 ["] 9 ["] 0 ["] 6	41 ^s 80 ^s 0 ^s 48	63 ["] 0 ["] 2 ["] 5	26 ^s 27 ^s 0 ^s 29	23 ["] 7 ["] 0 ["] 7
20	8 ^s 87 ^s 0 ^s 25	33 ["] 3 ["] 0 ["] 2	42 ^s 28 ^s 0 ^s 44	65 ["] 5 ["] 2 ["] 7	26 ^s 56 ^s 0 ^s 27	23 ["] 0 ["] 0 ["] 3
Mar. 2	9 ^s 12 ^s 0 ^s 21	33 ["] 3 ["] 0 ["] 2	42 ^s 72 ^s 0 ^s 39	68 ["] 2 ["] 2 ["] 9	26 ^s 83 ^s 0 ^s 23	22 ["] 7 ["] 0 ["] 2
12	9 ^s 33 ^s 0 ^s 18	33 ["] 3 ["] 0 ["] 6	43 ^s 11 ^s 0 ^s 32	71 ["] 1 ["] 3 ["] 0	27 ^s 06 ^s 0 ^s 20	22 ["] 9 ["] 0 ["] 5
22	9 ^s 51 ^s 0 ^s 15	33 ["] 9 ["] 0 ["] 9	43 ^s 43 ^s 0 ^s 27	74 ["] 1 ["] 3 ["] 0	27 ^s 26 ^s 0 ^s 16	23 ["] 4 ["] 0 ["] 9
Apr. 1	9 ^s 66 ^s 0 ^s 11	34 ["] 8 ["] 1 ["] 2	43 ^s 70 ^s 0 ^s 21	77 ["] 1 ["] 3 ["] 1	27 ^s 42 ^s 0 ^s 12	24 ["] 3 ["] 1 ["] 1
11	9 ^s 77 ^s 0 ^s 07	36 ["] 0 ["] 1 ["] 3	43 ^s 91 ^s 0 ^s 15	80 ["] 2 ["] 2 ["] 9	27 ^s 54 ^s 0 ^s 10	25 ["] 4 ["] 1 ["] 4
21	9 ^s 84 ^s 0 ^s 04	37 ["] 3 ["] 1 ["] 5	44 ^s 06 ^s 0 ^s 09	83 ["] 1 ["] 2 ["] 8	27 ^s 64 ^s 0 ^s 06	26 ["] 8 ["] 1 ["] 5
May 1	9 ^s 88 ^s 0 ^s 01	38 ["] 8 ["] 1 ["] 6	44 ^s 15 ^s 0 ^s 03	85 ["] 9 ["] 2 ["] 7	27 ^s 70 ^s 0 ^s 03	28 ["] 3 ["] 1 ["] 6
11	9 ^s 89 ^s 0 ^s 01	40 ["] 4 ["] 1 ["] 4	44 ^s 18 ^s 0 ^s 02	88 ["] 6 ["] 2 ["] 4	27 ^s 73 ^s 0 ^s 00	29 ["] 9 ["] 1 ["] 6
21	9 ^s 88 ^s 0 ^s 04	41 ["] 8 ["] 1 ["] 5	44 ^s 16 ^s 0 ^s 08	91 ["] 0 ["] 2 ["] 1	27 ^s 73 ^s 0 ^s 03	31 ["] 5 ["] 1 ["] 6
31	9 ^s 84 ^s 0 ^s 06	43 ["] 3 ["] 1 ["] 4	44 ^s 08 ^s 0 ^s 13	93 ["] 1 ["] 1 ["] 8	27 ^s 70 ^s 0 ^s 05	33 ["] 1 ["] 1 ["] 4
June 10	9 ^s 78 ^s 0 ^s 08	44 ["] 7 ["] 1 ["] 2	43 ^s 95 ^s 0 ^s 17	94 ["] 9 ["] 1 ["] 4	27 ^s 65 ^s 0 ^s 07	34 ["] 5 ["] 1 ["] 3
20	9 ^s 70 ^s 0 ^s 09	45 ["] 9 ["] 1 ["] 0	43 ^s 78 ^s 0 ^s 21	96 ["] 3 ["] 1 ["] 1	27 ^s 58 ^s 0 ^s 09	35 ["] 8 ["] 1 ["] 1
30	9 ^s 61 ^s 0 ^s 11	46 ["] 9 ["] 0 ["] 8	43 ^s 57 ^s 0 ^s 25	97 ["] 4 ["] 0 ["] 6	27 ^s 49 ^s 0 ^s 11	36 ["] 9 ["] 0 ["] 8
July 10	9 ^s 50 ^s 0 ^s 12	47 ["] 7 ["] 0 ["] 5	43 ^s 32 ^s 0 ^s 28	98 ["] 0 ["] 0 ["] 2	27 ^s 38 ^s 0 ^s 12	37 ["] 7 ["] 0 ["] 6
20	9 ^s 38 ^s 0 ^s 13	48 ["] 2 ["] 0 ["] 3	43 ^s 04 ^s 0 ^s 29	98 ["] 2 ["] 0 ["] 3	27 ^s 26 ^s 0 ^s 13	38 ["] 3 ["] 0 ["] 4
30	9 ^s 25 ^s 0 ^s 13	48 ["] 5 ["] 0 ["] 0	42 ^s 75 ^s 0 ^s 29	97 ["] 9 ["] 0 ["] 7	27 ^s 13 ^s 0 ^s 15	38 ["] 7 ["] 0 ["] 1
Aug. 9	9 ^s 12 ^s 0 ^s 12	48 ["] 5 ["] 0 ["] 2	42 ^s 46 ^s 0 ^s 29	97 ["] 2 ["] 1 ["] 1	26 ^s 98 ^s 0 ^s 14	38 ["] 8 ["] 0 ["] 3
19	9 ^s 00 ^s 0 ^s 12	48 ["] 3 ["] 0 ["] 5	42 ^s 17 ^s 0 ^s 27	96 ["] 1 ["] 1 ["] 5	26 ^s 84 ^s 0 ^s 13	38 ["] 5 ["] 0 ["] 5
29	8 ^s 88 ^s 0 ^s 10	47 ["] 8 ["] 0 ["] 8	41 ^s 90 ^s 0 ^s 23	94 ["] 6 ["] 1 ["] 9	26 ^s 71 ^s 0 ^s 12	38 ["] 0 ["] 0 ["] 7
Sept. 8	8 ^s 78 ^s 0 ^s 08	47 ["] 0 ["] 1 ["] 1	41 ^s 67 ^s 0 ^s 19	92 ["] 7 ["] 2 ["] 1	26 ^s 59 ^s 0 ^s 10	37 ["] 3 ["] 1 ["] 1
18	8 ^s 70 ^s 0 ^s 06	45 ["] 9 ["] 1 ["] 4	41 ^s 48 ^s 0 ^s 12	90 ["] 6 ["] 2 ["] 3	26 ^s 49 ^s 0 ^s 08	36 ["] 2 ["] 1 ["] 4
28	8 ^s 64 ^s 0 ^s 01	44 ["] 5 ["] 1 ["] 6	41 ^s 36 ^s 0 ^s 04	88 ["] 3 ["] 2 ["] 4	26 ^s 41 ^s 0 ^s 04	34 ["] 8 ["] 1 ["] 7
Oct. 8	8 ^s 63 ^s 0 ^s 02	42 ["] 9 ["] 2 ["] 1	41 ^s 32 ^s 0 ^s 04	85 ["] 9 ["] 2 ["] 4	26 ^s 37 ^s 0 ^s 00	33 ["] 7 ["] 1 ["] 1
18	8 ^s 65 ^s 0 ^s 09	40 ["] 8 ["] 2 ["] 2	41 ^s 36 ^s 0 ^s 13	83 ["] 5 ["] 2 ["] 5	26 ^s 37 ^s 0 ^s 05	33 ["] 7 ["] 1 ["] 1
28	8 ^s 74 ^s 0 ^s 12	38 ["] 6 ["] 2 ["] 4	41 ^s 49 ^s 0 ^s 22	81 ["] 0 ["] 2 ["] 1	26 ^s 42 ^s 0 ^s 10	33 ["] 7 ["] 1 ["] 1
Nov. 7	8 ^s 86 ^s 0 ^s 17	36 ["] 2 ["] 2 ["] 5	41 ^s 71 ^s 0 ^s 31	78 ["] 9 ["] 1 ["] 7	26 ^s 52 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
17	9 ^s 03 ^s 0 ^s 22	33 ["] 7 ["] 2 ["] 6	42 ^s 02 ^s 0 ^s 39	77 ["] 2 ["] 1 ["] 4	26 ^s 67 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
27	9 ^s 25 ^s 0 ^s 25	31 ["] 1 ["] 2 ["] 7	42 ^s 41 ^s 0 ^s 46	75 ["] 8 ["] 0 ["] 9	26 ^s 86 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
Dec. 7	9 ^s 50 ^s 0 ^s 30	28 ["] 4 ["] 2 ["] 5	42 ^s 87 ^s 0 ^s 51	74 ["] 9 ["] 0 ["] 5	27 ^s 1 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
17	9 ^s 80 ^s 0 ^s 32	25 ["] 9 ["] 2 ["] 5	43 ^s 38 ^s 0 ^s 55	74 ["] 4 ["] 0 ["] 1	27 ^s 1 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
27	10 ^s 12 ^s 0 ^s 33	23 ["] 4 ["] 2 ["] 3	43 ^s 93 ^s 0 ^s 58	74 ["] 5 ["] 0 ["] 6	27 ^s 1 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1
37	10 ^s 45 ^s 0 ^s 33	21 ["] 1 ["] 2 ["] 3	44 ^s 51 ^s 0 ^s 58	75 ["] 1 ["] 0 ["] 6	27 ^s 1 ^s 0 ^s 11	33 ["] 7 ["] 1 ["] 1

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α^2 Centauri.		ϵ Bootis.		α^2 LIBRÆ.	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. S.
	^h 14 ^m 28	^o 60 ⁱ 10	^h 14 ^m 38	^o 27 ⁱ 44	^h 14 ^m 42	^o 15 ⁱ 2
Jan. 1	51°06' 0.57	14°0' 0.4	2°67' 0.33	35°8' 2.4	5°58' 0.34	38°2'
11	51°63' 0.58	14°4' 0.8	3°00' 0.34	33°4' 2.0	5°92' 0.34	39°8'
21	52°21' 0.58	15°2' 1.3	3°34' 0.35	31°4' 1.6	6°26' 0.34	41°4'
31	52°79' 0.55	16°5' 1.6	3°69' 0.33	29°8' 1.1	6°60' 0.33	43°1'
Feb. 10	53°34' 0.53	18°1' 2.0	4°02' 0.32	28°7' 0.6	6°93' 0.31	44°7'
20	53°87' 0.48	20°1' 2.3	4°34' 0.29	28°1' 0.1	7°24' 0.29	46°2'
Mar. 2	54°35' 0.44	22°4' 2.5	4°63' 0.27	28°0' 0.4	7°53' 0.26	47°6'
12	54°79' 0.39	24°9' 2.7	4°90' 0.23	28°4' 0.9	7°79' 0.24	48°8'
22	55°18' 0.33	27°6' 2.8	5°13' 0.20	29°3' 1.2	8°03' 0.21	49°9'
Apr. 1	55°51' 0.27	30°4' 2.8	5°33' 0.15	30°5' 1.6	8°24' 0.17	50°7'
11	55°78' 0.21	33°2' 2.8	5°48' 0.13	32°1' 1.9	8°41' 0.15	51°4'
21	55°99' 0.16	36°0' 2.8	5°61' 0.09	34°0' 2.0	8°56' 0.12	51°9'
May 1	56°15' 0.09	38°8' 2.6	5°70' 0.05	36°0' 2.0	8°68' 0.09	52°2'
11	56°24' 0.02	41°4' 2.5	5°75' 0.02	38°0' 2.1	8°77' 0.06	52°5'
21	56°26' 0.02	43°9' 2.2	5°77' 0.01	40°1' 2.0	8°83' 0.03	52°6'
31	56°24' 0.08	46°1' 2.0	5°76' 0.04	42°1' 1.9	8°86' 0.01	52°5'
June 10	56°16' 0.14	48°1' 1.7	5°72' 0.07	44°0' 1.7	8°87' 0.02	52°4'
20	56°02' 0.19	49°8' 1.4	5°65' 0.09	45°7' 1.5	8°85' 0.05	52°2'
30	55°83' 0.23	51°2' 0.9	5°56' 0.12	47°2' 1.2	8°80' 0.08	52°0'
July 10	55°60' 0.28	52°1' 0.6	5°44' 0.13	48°4' 0.9	8°72' 0.09	51°7'
20	55°32' 0.30	52°7' 0.1	5°31' 0.16	49°3' 0.5	8°63' 0.11	51°3'
30	55°02' 0.32	52°8' 0.3	5°15' 0.16	49°8' 0.2	8°52' 0.13	50°8'
Aug. 9	54°70' 0.32	52°5' 0.8	4°99' 0.16	50°0' 0.1	8°39' 0.13	50°3'
19	54°38' 0.32	51°7' 1.2	4°83' 0.17	49°9' 0.5	8°26' 0.13	49°8'
29	54°06' 0.28	50°5' 1.5	4°66' 0.15	49°4' 0.8	8°13' 0.13	49°2'
Sept. 8	53°78' 0.25	49°0' 1.9	4°51' 0.14	48°6' 1.2	8°00' 0.11	48°7'
18	53°53' 0.19	47°1' 2.2	4°37' 0.11	47°4' 1.6	7°89' 0.08	48°2'
28	53°34' 0.13	44°9' 2.3	4°26' 0.08	45°8' 1.8	7°81' 0.06	47°8'
Oct. 8	53°21' 0.04	42°6' 2.4	4°18' 0.03	44°0' 2.2	7°75' 0.01	47°5'
18	53°17' 0.04	40°2' 2.3	4°15' 0.01	41°8' 2.4	7°74' 0.04	47°3'
28	53°21' 0.16	37°9' 2.5	4°14' 0.06	39°4' 3.0	7°78' 0.09	47°3'
Nov. 7	53°37' 0.24	35°4' 2.1	* 4°20' 0.12	36°4' 2.8	* 7°87' 0.13	47°6'
17	53°61' 0.32	33°3' 1.6	4°32' 0.17	33°6' 3.0	8°00' 0.19	48°1'
27	53°93' 0.41	31°7' 1.4	4°49' 0.21	30°6' 3.0	8°19' 0.24	48°8'
Dec. 7	54°34' 0.47	30°3' 0.9	4°70' 0.26	27°6' 2.9	8°43' 0.27	49°8'
17	54°81' 0.52	29°4' 0.4	4°96' 0.30	24°7' 2.8	8°70' 0.30	50°9'
27	55°33' 0.56	29°0' 0.1	5°26' 0.32	21°9' 2.4	9°00' 0.33	52°3'
37	55°89' 0.56	29°1' 0.1	5°58' 0.32	19°5' 2.4	9°33' 0.33	53°3'

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β URSAE MINORIS.		β LIBRAE.		α CORONAE BOREALIS.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. North.
	^h 14 ^m 51	[°] 74 ['] 47	^h 15 ^m 8	[°] 8 ['] 47	^h 15 ^m 27	[°] 27 ['] 14
Jan. 1	13 ^s 06 ^s	53 ["] 7 ["]	27 ^s 39 ^s	35 ["] 9 ["]	57 ^s 11 ^s	56 ["] 6 ["]
11	13 ^s 83 ^s 0 ["] 77	51 ["] 4 ["] 2 ["] 3	27 ^s 71 ^s 0 ["] 32	37 ["] 6 ["] 1 ["] 7	57 ^s 41 ^s 0 ["] 30	54 ["] 0 ["] 2 ["] 6
21	14 ^s 67 ^s 0 ["] 84	49 ["] 7 ["] 1 ["] 7	28 ^s 03 ^s 0 ["] 32	39 ["] 2 ["] 1 ["] 6	57 ^s 74 ^s 0 ["] 33	51 ["] 8 ["] 2 ["] 2
31	15 ^s 56 ^s 0 ["] 89	48 ["] 7 ["] 1 ["] 0	28 ^s 36 ^s 0 ["] 33	40 ["] 8 ["] 1 ["] 6	58 ^s 07 ^s 0 ["] 33	49 ["] 9 ["] 1 ["] 9
	0 ["] 89	0 ["] 4	0 ["] 32	1 ["] 4	0 ["] 33	1 ["] 3
Feb. 10	16 ^s 45 ^s 0 ["] 86	48 ["] 3 ["] 0 ["] 3	28 ^s 68 ^s 0 ["] 32	42 ["] 2 ["] 1 ["] 4	58 ^s 40 ^s 0 ["] 33	48 ["] 6 ["] 0 ["] 9
20	17 ^s 31 ^s 0 ["] 81	48 ["] 6 ["] 1 ["] 0	29 ^s 00 ^s 0 ["] 29	43 ["] 6 ["] 1 ["] 1	58 ^s 73 ^s 0 ["] 31	47 ["] 7 ["] 0 ["] 4
Mar. 2	18 ^s 12 ^s 0 ["] 73	49 ["] 6 ["] 1 ["] 5	29 ^s 29 ^s 0 ["] 27	44 ["] 7 ["] 0 ["] 9	59 ^s 04 ^s 0 ["] 30	47 ["] 3 ["] 0 ["] 2
12	18 ^s 85 ^s 0 ["] 62	51 ["] 1 ["] 2 ["] 1	29 ^s 56 ^s 0 ["] 25	45 ["] 6 ["] 0 ["] 7	59 ^s 34 ^s 0 ["] 26	47 ["] 5 ["] 0 ["] 6
	0 ["] 50	2 ["] 5	0 ["] 22	0 ["] 4	0 ["] 24	1 ["] 1
Apr. 1	19 ^s 47 ^s 0 ["] 37	55 ["] 7 ["] 2 ["] 9	30 ^s 03 ^s 0 ["] 20	46 ["] 7 ["] 0 ["] 3	59 ^s 84 ^s 0 ["] 21	49 ["] 2 ["] 1 ["] 5
11	20 ^s 34 ^s 0 ["] 22	58 ["] 6 ["] 3 ["] 0	30 ^s 23 ^s 0 ["] 17	47 ["] 0 ["] 0 ["] 0	60 ^s 05 ^s 0 ["] 17	50 ["] 7 ["] 1 ["] 8
21	20 ^s 56 ^s 0 ["] 08	61 ["] 6 ["] 3 ["] 3	30 ^s 40 ^s 0 ["] 13	47 ["] 0 ["] 0 ["] 1	60 ^s 22 ^s 0 ["] 14	52 ["] 5 ["] 2 ["] 0
	0 ["] 07	3 ["] 1	0 ["] 12	0 ["] 2	0 ["] 10	2 ["] 2
May 1	20 ^s 64 ^s 0 ["] 20	64 ["] 9 ["] 3 ["] 0	30 ^s 53 ^s 0 ["] 08	46 ["] 7 ["] 0 ["] 4	60 ^s 36 ^s 0 ["] 08	54 ["] 5 ["] 2 ["] 3
11	20 ^s 57 ^s 0 ["] 33	68 ["] 0 ["] 2 ["] 8	30 ^s 65 ^s 0 ["] 05	46 ["] 3 ["] 0 ["] 4	60 ^s 46 ^s 0 ["] 03	56 ["] 7 ["] 2 ["] 2
21	20 ^s 37 ^s 0 ["] 45	71 ["] 0 ["] 2 ["] 5	30 ^s 73 ^s 0 ["] 03	45 ["] 9 ["] 0 ["] 4	60 ^s 54 ^s 0 ["] 01	59 ["] 0 ["] 2 ["] 2
31	20 ^s 04 ^s 0 ["] 55	73 ["] 8 ["] 2 ["] 2	30 ^s 78 ^s 0 ["] 01	45 ["] 5 ["] 0 ["] 6	60 ^s 57 ^s 0 ["] 04	61 ["] 2 ["] 2 ["] 0
	0 ["] 64	2 ["] 2	0 ["] 01	0 ["] 6	0 ["] 06	1 ["] 8
June 10	19 ^s 59 ^s 0 ["] 70	76 ["] 3 ["] 1 ["] 2	30 ^s 81 ^s 0 ["] 06	44 ["] 4 ["] 0 ["] 5	60 ^s 48 ^s 0 ["] 09	67 ["] 2 ["] 1 ["] 5
20	19 ^s 04 ^s 0 ["] 76	78 ["] 5 ["] 0 ["] 7	30 ^s 77 ^s 0 ["] 08	43 ["] 9 ["] 0 ["] 5	60 ^s 39 ^s 0 ["] 12	68 ["] 7 ["] 1 ["] 3
30	18 ^s 40 ^s 0 ["] 80	80 ["] 1 ["] 0 ["] 2	30 ^s 71 ^s 0 ["] 11	43 ["] 4 ["] 0 ["] 5	60 ^s 27 ^s 0 ["] 14	70 ["] 0 ["] 1 ["] 0
July 10	17 ^s 70 ^s 0 ["] 81	81 ["] 3 ["] 0 ["] 4	30 ^s 52 ^s 0 ["] 12	42 ["] 9 ["] 0 ["] 5	60 ^s 13 ^s 0 ["] 17	71 ["] 0 ["] 0 ["] 6
20	16 ^s 94 ^s 0 ["] 81	82 ["] 0 ["] 0 ["] 9	30 ^s 40 ^s 0 ["] 13	42 ["] 4 ["] 0 ["] 4	59 ^s 96 ^s 0 ["] 17	71 ["] 6 ["] 0 ["] 2
30	16 ^s 14 ^s 0 ["] 80	81 ["] 8 ["] 1 ["] 4	30 ^s 27 ^s 0 ["] 14	42 ["] 0 ["] 0 ["] 4	59 ^s 79 ^s 0 ["] 19	71 ["] 8 ["] 0 ["] 0
Aug. 9	15 ^s 33 ^s 0 ["] 75	79 ["] 5 ["] 1 ["] 9	30 ^s 13 ^s 0 ["] 13	41 ["] 6 ["] 0 ["] 3	59 ^s 60 ^s 0 ["] 18	71 ["] 8 ["] 0 ["] 5
19	14 ^s 52 ^s 0 ["] 69	77 ["] 6 ["] 2 ["] 3	30 ^s 00 ^s 0 ["] 13	41 ["] 3 ["] 0 ["] 3	59 ^s 42 ^s 0 ["] 17	71 ["] 3 ["] 0 ["] 8
	0 ["] 61	2 ["] 8	0 ["] 10	0 ["] 1	0 ["] 15	1 ["] 2
29	13 ^s 72 ^s 0 ["] 52	75 ["] 3 ["] 3 ["] 1	29 ^s 87 ^s 0 ["] 08	40 ["] 9 ["] 0 ["] 0	59 ^s 10 ^s 0 ["] 13	69 ["] 3 ["] 1 ["] 6
Sept. 8	12 ^s 97 ^s 0 ["] 40	72 ["] 5 ["] 3 ["] 4	29 ^s 77 ^s 0 ["] 04	40 ["] 9 ["] 0 ["] 2	58 ^s 97 ^s 0 ["] 09	67 ["] 7 ["] 1 ["] 9
18	12 ^s 28 ^s 0 ["] 27	66 ["] 0 ["] 3 ["] 6	29 ^s 65 ^s 0 ["] 01	41 ["] 1 ["] 0 ["] 4	58 ^s 88 ^s 0 ["] 04	65 ["] 8 ["] 2 ["] 2
28	11 ^s 67 ^s 0 ["] 13	62 ["] 4 ["] 3 ["] 8	29 ^s 66 ^s 0 ["] 06	41 ["] 5 ["] 0 ["] 6	58 ^s 84 ^s 0 ["] 00	63 ["] 6 ["] 2 ["] 2
Nov. 7	10 ^s 35 ^s 0 ["] 02	58 ["] 6 ["] 3 ["] 9	29 ^s 72 ^s 0 ["] 11	42 ["] 1 ["] 0 ["] 9	58 ^s 84 ^s 0 ["] 06	61 ["] 2 ["] 2 ["] 2
17	10 ^s 37 ^s 0 ["] 18	54 ["] 7 ["] 3 ["] 8	29 ^s 83 ^s 0 ["] 15	43 ["] 0 ["] 1 ["] 1	58 ^s 90 ^s 0 ["] 10	58 ["] 3 ["] 2 ["] 2
27	10 ^s 55 ^s 0 ["] 35	50 ["] 9 ["] 3 ["] 6	29 ^s 98 ^s 0 ["] 20	44 ["] 1 ["] 1 ["] 1	59 ^s 00 ^s 0 ["] 17	55 ["] 3 ["] 2 ["] 2
Dec. 7	10 ^s 90 ^s 0 ["] 48	47 ["] 3 ["] 3 ["] 4	30 ^s 18 ^s 0 ["] 25	45 ["] 2 ["] 1 ["] 3	59 ^s 17 ^s 0 ["] 21	52 ["] 3 ["] 2 ["] 2
17	11 ^s 38 ^s 0 ["] 60	43 ["] 9 ["] 3 ["] 1	30 ^s 43 ^s 0 ["] 28	46 ["] 5 ["] 1 ["] 6	59 ^s 38 ^s 0 ["] 25	52 ["] 3 ["] 2 ["] 2
27	11 ^s 98 ^s 0 ["] 72	40 ["] 8 ["] 2 ["] 5	30 ^s 71 ^s 0 ["] 30	48 ["] 1 ["] 1 ["] 6	59 ^s 63 ^s 0 ["] 29	52 ["] 3 ["] 2 ["] 2
37	12 ^s 70 ^s 0 ["] 72	38 ["] 3 ["] 2 ["] 5	31 ^s 01 ^s 0 ["] 30	49 ["] 7 ["] 1 ["] 6	59 ^s 92 ^s 0 ["] 29	52 ["] 3 ["] 2 ["] 2

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α SERPENTIS.			ζ Ursæ Minoris.			β^1 Scorpii.		
	R. A.	Dec. North.		R. A.	Dec. North.		R. A.	Dec. So.	
	^h 15	^m 36	[°] 6 ['] 55	^h 15	^m 49	[°] 78 ['] 16	^h 15	^m 56	[°] 19 ['] 2
Jan. 1	26 ^s 14 ^s		39 ^u 6 ^u	48 ^s 49 ^s		27 ^u 3 ^u	11 ^s 70 ^s		54 ^u 2 ^u
11	26 ^{0.29} 43 ^{0.31}		37 ^{2.1} 5 ^{2.1}	49 ^{0.77} 26 ^{0.91}		24 ^{2.8} 5 ^{2.2}	12 ^{0.30} 00 ^{0.33}		55 ² 2 ²
21	26 ^{0.32} 74 ^{0.32}		35 ^{1.9} 6 ^{1.7}	50 ^{1.01} 17 ^{1.01}		22 ^{1.7} 3 ^{1.7}	12 ^{0.34} 33 ^{0.34}		56 ³ 3 ³
31	27 ^{0.31} 06 ^{0.31}		33 ^{1.5} 9 ^{1.5}	51 ^{1.08} 18 ^{1.08}		20 ^{1.1} 6 ^{1.1}	12 ^{0.33} 67 ^{0.33}		57 ⁴ 4 ⁴
Feb. 10	27 ^{0.31} 37 ^{0.31}		32 ^{1.1} 4 ^{1.1}	52 ^{1.10} 26 ^{1.10}		19 ^{0.4} 5 ^{0.2}	13 ^{0.32} 00 ^{0.32}		58 ⁵ 5 ⁵
20	27 ^{0.28} 68 ^{0.28}		31 ^{0.5} 3 ^{0.5}	53 ^{1.03} 36 ^{1.03}		19 ^{0.9} 3 ^{0.9}	13 ^{0.29} 34 ^{0.29}		59 ⁶ 6 ⁶
Mar. 2	27 ^{0.26} 98 ^{0.26}		30 ^{0.0} 6 ^{0.0}	54 ^{0.94} 45 ^{0.94}		19 ^{1.5} 3 ^{1.5}	13 ^{0.27} 66 ^{0.27}		60 ⁷ 7 ⁷
12	28 ^{0.23} 26 ^{0.23}		30 ^{0.6} 1 ^{0.6}	55 ^{0.67} 48 ^{0.67}		20 ^{2.1} 2 ^{2.1}	13 ^{0.24} 98 ^{0.24}		61 ⁸ 8 ⁸
22	28 ^{0.19} 52 ^{0.19}		30 ^{1.0} 1 ^{1.0}	56 ^{0.51} 42 ^{0.51}		21 ^{3.1} 7 ^{3.1}	14 ^{0.19} 27 ^{0.19}		62 ⁹ 9 ⁹
Apr. 1	28 ^{0.15} 75 ^{0.15}		30 ^{1.3} 4 ^{1.3}	57 ^{0.40} 24 ^{0.40}		23 ^{3.0} 8 ^{3.0}	14 ^{0.08} 54 ^{0.08}		63 ¹⁰ 10 ¹⁰
11	28 ^{0.13} 96 ^{0.13}		31 ^{1.2} 0 ^{1.2}	57 ^{0.36} 91 ^{0.36}		26 ^{2.6} 3 ^{2.6}	14 ^{0.03} 78 ^{0.03}		63 ¹¹ 11 ¹¹
21	29 ^{0.10} 15 ^{0.10}		31 ^{0.7} 9 ^{0.7}	58 ^{0.23} 42 ^{0.23}		29 ^{2.3} 2 ^{2.3}	15 ^{0.07} 01 ^{0.07}		64 ¹² 12 ¹²
May 1	29 ^{0.08} 30 ^{0.08}		32 ^{1.0} 9 ^{1.0}	58 ^{0.14} 75 ^{0.14}		32 ^{3.1} 3 ^{3.1}	15 ^{0.15} 20 ^{0.15}		64 ¹³ 13 ¹³
11	29 ^{0.15} 43 ^{0.15}		34 ^{0.9} 1 ^{0.9}	58 ^{0.13} 89 ^{0.13}		35 ^{3.2} 5 ^{3.2}	15 ^{0.14} 37 ^{0.14}		64 ¹⁴ 14 ¹⁴
21	29 ^{0.13} 52 ^{0.13}		35 ^{0.8} 4 ^{0.8}	58 ^{0.11} 85 ^{0.11}		38 ^{3.2} 7 ^{3.2}	15 ^{0.10} 51 ^{0.10}		64 ¹⁵ 15 ¹⁵
31	29 ^{0.04} 59 ^{0.04}		36 ^{1.3} 8 ^{1.3}	58 ^{0.08} 62 ^{0.08}		41 ^{3.0} 8 ^{3.0}	15 ^{0.08} 61 ^{0.08}		64 ¹⁶ 16 ¹⁶
June 10	29 ^{0.00} 63 ^{0.00}		38 ^{1.3} 1 ^{1.3}	58 ^{0.56} 22 ^{0.56}		44 ^{2.6} 8 ^{2.6}	15 ^{0.03} 69 ^{0.03}		64 ¹⁷ 17 ¹⁷
20	29 ^{0.02} 63 ^{0.02}		39 ^{1.1} 4 ^{1.1}	57 ^{0.33} 66 ^{0.33}		47 ^{2.3} 4 ^{2.3}	15 ^{0.07} 72 ^{0.07}		64 ¹⁸ 18 ¹⁸
30	29 ^{0.08} 61 ^{0.08}		40 ^{1.0} 6 ^{1.0}	56 ^{0.23} 95 ^{0.23}		49 ^{1.5} 7 ^{1.5}	15 ^{0.15} 73 ^{0.15}		64 ¹⁹ 19 ¹⁹
July 10	29 ^{0.10} 55 ^{0.10}		41 ^{0.7} 7 ^{0.7}	56 ^{0.14} 12 ^{0.14}		51 ^{1.5} 6 ^{1.5}	15 ^{0.14} 70 ^{0.14}		64 ²⁰ 20 ²⁰
20	29 ^{0.13} 47 ^{0.13}		42 ^{0.6} 7 ^{0.6}	55 ^{0.09} 18 ^{0.09}		53 ^{1.0} 1 ^{1.0}	15 ^{0.13} 63 ^{0.13}		64 ²¹ 21 ²¹
30	29 ^{0.14} 37 ^{0.14}		43 ^{0.5} 4 ^{0.5}	54 ^{0.13} 16 ^{0.13}		54 ^{0.5} 1 ^{0.5}	15 ^{0.12} 54 ^{0.12}		64 ²² 22 ²²
Aug. 9	29 ^{0.15} 24 ^{0.15}		44 ^{0.2} 0 ^{0.2}	53 ^{0.11} 07 ^{0.11}		54 ^{0.6} 0 ^{0.6}	15 ^{0.11} 42 ^{0.11}		64 ²³ 23 ²³
19	29 ^{0.15} 10 ^{0.15}		44 ^{0.0} 5 ^{0.0}	51 ^{0.09} 94 ^{0.09}		54 ^{0.6} 0 ^{0.6}	15 ^{0.10} 28 ^{0.10}		63 ²⁴ 24 ²⁴
29	28 ^{0.15} 95 ^{0.15}		44 ^{0.6} 7 ^{0.6}	50 ^{0.13} 80 ^{0.13}		54 ^{1.0} 0 ^{1.0}	15 ^{0.15} 13 ^{0.15}		63 ²⁵ 25 ²⁵
Sept. 8	28 ^{0.14} 80 ^{0.14}		44 ^{0.5} 7 ^{0.5}	49 ^{0.11} 67 ^{0.11}		53 ^{1.6} 0 ^{1.6}	14 ^{0.15} 98 ^{0.15}		62 ²⁶ 26 ²⁶
18	28 ^{0.13} 66 ^{0.13}		44 ^{0.6} 5 ^{0.6}	48 ^{0.09} 59 ^{0.09}		51 ^{2.0} 4 ^{2.0}	14 ^{0.14} 83 ^{0.14}		62 ²⁷ 27 ²⁷
28	28 ^{0.10} 53 ^{0.10}		44 ^{0.6} 0 ^{0.6}	47 ^{0.09} 58 ^{0.09}		49 ^{2.4} 4 ^{2.4}	14 ^{0.11} 69 ^{0.11}		62 ²⁸ 28 ²⁸
Oct. 8	28 ^{0.07} 43 ^{0.07}		43 ^{1.0} 4 ^{1.0}	46 ^{0.31} 65 ^{0.31}		47 ^{2.9} 0 ^{2.9}	14 ^{0.08} 58 ^{0.08}		61 ²⁹ 29 ²⁹
18	28 ^{0.03} 36 ^{0.03}		42 ^{1.2} 4 ^{1.2}	45 ^{0.24} 84 ^{0.24}		44 ^{3.1} 1 ^{3.1}	14 ^{0.04} 50 ^{0.04}		61 ³⁰ 30 ³⁰
28	28 ^{0.01} 33 ^{0.01}		41 ^{1.4} 2 ^{1.4}	45 ^{0.32} 18 ^{0.32}		41 ^{3.4} 0 ^{3.4}	14 ^{0.01} 46 ^{0.01}		61 ³¹ 31 ³¹
Nov. 7	28 ^{0.07} 34 ^{0.07}		39 ^{1.8} 8 ^{1.8}	44 ^{0.32} 69 ^{0.32}		37 ^{3.6} 0 ^{3.6}	14 ^{0.07} 47 ^{0.07}		60 ³² 32 ³²
17	28 ^{0.12} 41 ^{0.12}		38 ^{1.8} 0 ^{1.8}	44 ^{0.10} 37 ^{0.10}		34 ^{4.1} 0 ^{4.1}	14 ^{0.12} 54 ^{0.12}		60 ³³ 33 ³³
27	28 ^{0.16} 53 ^{0.16}		36 ^{2.0} 2 ^{2.0}	44 ^{0.09} 27 ^{0.09}		29 ^{3.7} 9 ^{3.7}	14 ^{0.17} 66 ^{0.17}		61 ³⁴ 34 ³⁴
Dec. 7	28 ^{0.21} 69 ^{0.21}		34 ^{2.1} 2 ^{2.1}	44 ^{0.53} 36 ^{0.53}		26 ^{3.3} 2 ^{3.3}	14 ^{0.22} 83 ^{0.22}		61 ³⁵ 35 ³⁵
17	28 ^{0.25} 90 ^{0.25}		32 ^{2.2} 1 ^{2.2}	44 ^{0.31} 67 ^{0.31}		22 ^{3.6} 6 ^{3.6}	15 ^{0.26} 05 ^{0.26}		62 ³⁶ 36 ³⁶
27	29 ^{0.28} 15 ^{0.28}		29 ^{2.1} 9 ^{2.1}	45 ^{0.70} 20 ^{0.70}		19 ^{3.0} 3 ^{3.0}	15 ^{0.29} 31 ^{0.29}		62 ³⁷ 37 ³⁷
37	29 ^{0.28} 43 ^{0.28}		27 ^{2.1} 8 ^{2.1}	45 ^{0.70} 90 ^{0.70}		16 ^{3.0} 3 ^{3.0}	15 ^{0.29} 60 ^{0.29}		63 ³⁸ 38 ³⁸

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	♂ OPHIUCHI.			α SCORPII. (Antares)			η Draconis.		
	R. A.		Dec. South.	R. A.		Dec. South.	R. A.		Dec. North.
	^h 16	^m 6	[°] 3 ['] 16	^h 16	^m 19	[°] 26 ['] 4	^h 16	^m 21	[°] 61 ['] 52
Jan. 1	0 ^s 83	0 ^s 28	52 ^h 3 ^m	39 ^s 68	0 ^s 31	25 ^h 8 ^m	49 ^s 07	0 ^s 35	12 ^h 1 ^m
11	1 ^s 11	0 ^s 29	54 ^h 0 ^m	39 ^s 99	0 ^s 33	26 ^h 3 ^m	49 ^s 42	0 ^s 41	9 ^h 0 ^m
21	1 ^s 40	0 ^s 32	55 ^h 6 ^m	40 ^s 32	0 ^s 34	27 ^h 0 ^m	49 ^s 83	0 ^s 48	6 ^h 2 ^m
31	1 ^s 72	0 ^s 31	57 ^h 0 ^m	40 ^s 66	0 ^s 35	27 ^h 8 ^m	50 ^s 31	0 ^s 50	4 ^h 0 ^m
Feb. 10	2 ^s 03	0 ^s 32	58 ^h 4 ^m	41 ^s 01	0 ^s 35	28 ^h 6 ^m	50 ^s 81	0 ^s 51	2 ^h 4 ^m
20	2 ^s 35	0 ^s 30	59 ^h 5 ^m	41 ^s 36	0 ^s 35	29 ^h 5 ^m	51 ^s 32	0 ^s 52	1 ^h 4 ^m
Mar. 2	2 ^s 65	0 ^s 30	60 ^h 3 ^m	41 ^s 71	0 ^s 33	30 ^h 4 ^m	51 ^s 84	0 ^s 51	1 ^h 1 ^m
12	2 ^s 95	0 ^s 27	60 ^h 9 ^m	42 ^s 04	0 ^s 32	31 ^h 2 ^m	52 ^s 35	0 ^s 47	1 ^h 4 ^m
22	3 ^s 22	0 ^s 26	61 ^h 2 ^m	42 ^s 36	0 ^s 30	32 ^h 0 ^m	52 ^s 82	0 ^s 44	2 ^h 4 ^m
Apr. 1	3 ^s 48	0 ^s 24	61 ^h 3 ^m	42 ^s 66	0 ^s 28	32 ^h 7 ^m	53 ^s 26	0 ^s 38	4 ^h 0 ^m
11	3 ^s 72	0 ^s 21	61 ^h 1 ^m	42 ^s 94	0 ^s 25	33 ^h 4 ^m	53 ^s 64	0 ^s 32	6 ^h 1 ^m
21	3 ^s 93	0 ^s 19	60 ^h 7 ^m	43 ^s 19	0 ^s 23	34 ^h 0 ^m	53 ^s 96	0 ^s 25	8 ^h 7 ^m
May 1	4 ^s 12	0 ^s 16	60 ^h 1 ^m	43 ^s 42	0 ^s 20	34 ^h 6 ^m	54 ^s 21	0 ^s 18	11 ^h 6 ^m
11	4 ^s 28	0 ^s 13	59 ^h 4 ^m	43 ^s 62	0 ^s 17	35 ^h 0 ^m	54 ^s 39	0 ^s 11	14 ^h 7 ^m
21	4 ^s 41	0 ^s 10	58 ^h 5 ^m	43 ^s 79	0 ^s 14	35 ^h 5 ^m	54 ^s 50	0 ^s 03	18 ^h 0 ^m
31	4 ^s 51	0 ^s 07	57 ^h 6 ^m	43 ^s 93	0 ^s 10	35 ^h 9 ^m	54 ^s 53	0 ^s 04	21 ^h 2 ^m
June 10	4 ^s 58	0 ^s 04	56 ^h 7 ^m	44 ^s 03	0 ^s 06	36 ^h 3 ^m	54 ^s 49	0 ^s 12	24 ^h 4 ^m
20	4 ^s 62	0 ^s 01	55 ^h 8 ^m	44 ^s 09	0 ^s 03	36 ^h 6 ^m	54 ^s 37	0 ^s 18	27 ^h 4 ^m
30	4 ^s 63	0 ^s 03	55 ^h 0 ^m	44 ^s 12	0 ^s 02	36 ^h 8 ^m	54 ^s 19	0 ^s 25	30 ^h 2 ^m
July 10	4 ^s 60	0 ^s 06	54 ^h 2 ^m	44 ^s 10	0 ^s 05	37 ^h 1 ^m	53 ^s 94	0 ^s 30	32 ^h 6 ^m
20	4 ^s 54	0 ^s 09	53 ^h 4 ^m	44 ^s 05	0 ^s 09	37 ^h 2 ^m	53 ^s 64	0 ^s 36	34 ^h 6 ^m
30	4 ^s 45	0 ^s 11	52 ^h 8 ^m	43 ^s 96	0 ^s 11	37 ^h 2 ^m	53 ^s 28	0 ^s 40	36 ^h 2 ^m
Aug. 9	4 ^s 34	0 ^s 13	52 ^h 2 ^m	43 ^s 85	0 ^s 15	37 ^h 2 ^m	52 ^s 88	0 ^s 43	37 ^h 3 ^m
19	4 ^s 21	0 ^s 15	51 ^h 8 ^m	43 ^s 70	0 ^s 16	37 ^h 0 ^m	52 ^s 45	0 ^s 45	38 ^h 0 ^m
29	4 ^s 06	0 ^s 15	51 ^h 4 ^m	43 ^s 54	0 ^s 16	36 ^h 8 ^m	52 ^s 00	0 ^s 46	38 ^h 1 ^m
Sept. 8	3 ^s 91	0 ^s 15	51 ^h 2 ^m	43 ^s 38	0 ^s 17	36 ^h 4 ^m	51 ^s 54	0 ^s 45	37 ^h 7 ^m
18	3 ^s 76	0 ^s 14	51 ^h 1 ^m	43 ^s 21	0 ^s 16	36 ^h 0 ^m	51 ^s 09	0 ^s 43	36 ^h 8 ^m
28	3 ^s 62	0 ^s 12	51 ^h 1 ^m	43 ^s 05	0 ^s 13	35 ^h 4 ^m	50 ^s 66	0 ^s 40	35 ^h 4 ^m
Oct. 8	3 ^s 50	0 ^s 08	51 ^h 3 ^m	42 ^s 92	0 ^s 10	34 ^h 8 ^m	50 ^s 26	0 ^s 35	33 ^h 5 ^m
18	3 ^s 42	0 ^s 05	51 ^h 7 ^m	42 ^s 82	0 ^s 06	34 ^h 2 ^m	49 ^s 91	0 ^s 31	31 ^h 2 ^m
28	3 ^s 37	0 ^s 01	52 ^h 3 ^m	42 ^s 76	0 ^s 01	33 ^h 7 ^m	49 ^s 1	0 ^s 28	31 ^h 4 ^m
Nov. 7	3 ^s 36	0 ^s 04	53 ^h 1 ^m	42 ^s 75	0 ^s 04	33 ^h 1 ^m	49 ^s 1	0 ^s 23	31 ^h 3 ^m
17	3 ^s 40	0 ^s 11	54 ^h 0 ^m	42 ^s 79	0 ^s 10	32 ^h 7 ^m	49 ^s 1	0 ^s 19	31 ^h 3 ^m
27	3 ^s 51	0 ^s 14	55 ^h 3 ^m	42 ^s 89	0 ^s 16	32 ^h 4 ^m	49 ^s 1	0 ^s 15	31 ^h 3 ^m
Dec. 7	3 ^s 65	0 ^s 19	56 ^h 7 ^m	43 ^s 05	0 ^s 20	32 ^h 3 ^m	49 ^s 1	0 ^s 11	31 ^h 3 ^m
17	3 ^s 84	0 ^s 23	58 ^h 2 ^m	43 ^s 25	0 ^s 25	32 ^h 4 ^m	49 ^s 1	0 ^s 07	31 ^h 3 ^m
27	4 ^s 07	0 ^s 26	59 ^h 7 ^m	43 ^s 50	0 ^s 29	32 ^h 7 ^m	49 ^s 1	0 ^s 03	31 ^h 3 ^m
37	4 ^s 33		61 ^h 4 ^m	43 ^s 79		33 ^h 1 ^m			31 ^h 3 ^m

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month,	α Trianguli Australis.		ϵ Ursæ Minoris.	
	R. A.	Dec. South.	R. A.	Dec. North.
	^h 16 ^m	^o 68 ⁱ	^h 17 ^m	^o 82 ⁱ
Jan. 1	31 51 ^s 69 ^s	43 25 ⁱ 4 ⁱ	2 18 ^s 90 ^s	16 61 ⁱ 0 ⁱ
11	52 31 0 ^s 62	23 9 1 ⁱ 5	19 57 0 ^s 67	57 8 3 ⁱ 2
21	53 01 0 ^s 70	22 7 1 ⁱ 2	20 50 0 ^s 93	55 0 2 ⁱ 8
31	53 75 0 ^s 74	22 0 0 ⁱ 7	21 68 1 ^s 18	52 5 2 ⁱ 5
	0 ^s 78	0 ⁱ 3	1 ^s 38	1 ⁱ 9
Feb. 10	54 53 0 ^s 79	21 7 0 ⁱ 1	23 06 1 ^s 51	50 6 1 ⁱ 2
20	55 32 0 ^s 77	21 8 0 ⁱ 5	24 57 1 ^s 59	49 4 0 ⁱ 7
Mar. 2	56 09 0 ^s 78	22 3 0 ⁱ 9	26 16 1 ^s 60	48 7 0 ⁱ 0
12	56 87 0 ^s 74	23 2 1 ⁱ 2	27 76 1 ^s 57	48 7 0 ⁱ 7
22	57 61 0 ^s 70	24 4 1 ⁱ 6	29 33 1 ^s 46	49 4 1 ⁱ 2
Apr. 1	58 31 0 ^s 66	26 0 1 ⁱ 8	30 79 1 ^s 32	50 6 1 ⁱ 9
11	58 97 0 ^s 59	27 8 2 ⁱ 1	32 11 1 ^s 12	52 5 2 ⁱ 3
21	59 56 0 ^s 53	29 9 2 ⁱ 3	33 23 0 ^s 89	54 8 2 ⁱ 6
May 1	60 09 0 ^s 44	32 2 2 ⁱ 4	34 12 0 ^s 63	57 4 3 ⁱ 0
11	60 53 0 ^s 37	34 6 2 ⁱ 6	34 75 0 ^s 36	60 4 3 ⁱ 2
21	60 90 0 ^s 28	37 2 2 ⁱ 6	35 11 0 ^s 08	63 6 3 ⁱ 2
31	61 18 0 ^s 18	39 8 2 ⁱ 5	35 19 0 ^s 21	66 8 3 ⁱ 3
June 10	61 36 0 ^s 08	42 3 2 ⁱ 5	34 98 0 ^s 50	70 1 3 ⁱ 1
20	61 44 0 ^s 02	44 8 2 ⁱ 3	34 48 0 ^s 73	73 2 2 ⁱ 9
30	61 42 0 ^s 11	47 1 2 ⁱ 2	33 75 0 ^s 99	76 1 2 ⁱ 7
July 10	61 31 0 ^s 21	49 3 1 ⁱ 9	32 76 1 ^s 21	78 8 2 ⁱ 3
20	61 10 0 ^s 29	51 2 1 ⁱ 5	31 55 1 ^s 40	81 1 2 ⁱ 0
30	60 81 0 ^s 37	52 7 1 ⁱ 2	30 15 1 ^s 57	83 1 1 ⁱ 5
Aug. 9	60 44 0 ^s 42	53 9 0 ⁱ 7	28 58 1 ^s 69	84 6 1 ⁱ 1
19	60 02 0 ^s 47	54 6 0 ⁱ 3	26 89 1 ^s 78	85 7 0 ⁱ 6
29	59 55 0 ^s 49	54 9 0 ⁱ 2	25 11 1 ^s 83	86 3 0 ⁱ 0
Sept. 8	59 06 0 ^s 48	54 7 0 ⁱ 7	23 28 1 ^s 84	86 3 0 ⁱ 4
18	58 58 0 ^s 45	54 0 1 ⁱ 1	21 44 1 ^s 81	85 9 0 ⁱ 9
28	58 13 0 ^s 41	52 9 1 ⁱ 6	19 63 1 ^s 74	85 0 1 ⁱ 4
Oct. 8	57 72 0 ^s 32	51 3 1 ⁱ 9	17 89 1 ^s 62	83 6 1 ⁱ 3
18	57 40 0 ^s 24	49 4 2 ⁱ 3	16 27 1 ^s 47	81 8 2 ⁱ 3
28	57 16 0 ^s 13	47 1 2 ⁱ 4	14 80 1 ^s 26	79 5 2 ⁱ 7
Nov. 7	57 03 0 ^s 01	44 7 2 ⁱ 6	13 54 1 ^s 02	76 8 3 ⁱ 0
17	57 02 0 ^s 11	42 1 2 ⁱ 6	12 52 0 ^s 76	73 8 3 ⁱ 3
27	57 13 0 ^s 28	39 5 2 ⁱ 8	11 76 0 ^s 48	70 5 3 ⁱ 8
Dec. 7	57 41 0 ^s 37	36 7 2 ⁱ 3	11 28 0 ^s 12	66 7 3 ⁱ 4
17	57 78 0 ^s 49	34 4 2 ⁱ 1	11 16 0 ^s 19	63 3 3 ⁱ 6
27	58 27 0 ^s 57	32 3 1 ⁱ 7	11 35 0 ^s 51	59 7 3 ⁱ 3
37	31 58 84	43 30 6	2 11 86	16 56 4

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α HERCULIS.			σ Octantis.		
	R. A.	Dec. North.		R. A.	Dec. South.	
	17 ^h	14 ^o		17 ^h	89 ^o	
	^m ^s	['] ["]		^m ^s	['] ["]	
Jan. 1	7 23.40	34 25.7		12 44.99	15 51.9	
11	23.62 0.22	23.4 2.3		12 57.46 12.47	49.2 2.7	
21	23.88 0.26	21.3 2.1		13 12.42 14.96	46.9 2.3	
31	24.15 0.27	19.4 1.9		13 29.45 17.03	45.0 1.9	
	0.29	1.6		18.61	1.4	
Feb. 10	24.44	17.8		13 48.06	43.6	
20	24.74 0.30	16.6 1.2		14 7.78 19.72	42.7 0.9	
Mar. 2	25.05 0.31	15.8 0.8		14 28.19 20.41	42.3 0.4	
12	25.35 0.30	15.4 0.4		14 48.74 20.55	42.4 0.1	
	0.30	0.1		20.30	0.7	
22	25.65	15.5		15 9.04	43.1	
Apr. 1	25.93 0.28	15.9 0.4		15 28.63 19.59	44.1 1.0	
11	26.20 0.27	16.8 0.9		15 47.10 18.47	45.7 1.6	
21	26.45 0.25	18.0 1.2		16 4.11 17.01	47.5 1.8	
	0.23	1.5		15.22	2.2	
May 1	26.68	19.5		16 19.33	49.7	
11	26.88 0.20	21.3 1.8		16 32.47 13.14	52.3 2.6	
21	27.06 0.18	23.2 1.9		16 43.22 10.75	55.1 2.8	
31	27.20 0.14	25.2 2.0		16 51.37 8.15	15 58.0 2.9	
	0.11	2.0		5.41	3.2	
June 10	27.31	27.2		16 56.78	16 1.2	
20	27.39 0.08	29.2 2.0		16 59.40 2.62	4.3 3.1	
30	27.42 0.03	31.1 1.9		16 58.97 0.43	7.3 3.0	
July 10	27.42 0.00	32.9 1.8		16 55.79 3.18	10.3 3.0	
	0.04	1.6		6.02	2.7	
20	27.38	34.5		16 49.77	13.0	
30	27.31 0.07	35.8 1.3		16 41.20 8.57	15.4 2.4	
Aug. 9	27.21 0.10	37.0 1.2		16 30.36 10.84	17.4 2.0	
19	27.07 0.14	37.9 0.9		16 17.57 12.79	19.0 1.6	
	0.16	0.7		14.37	1.1	
29	26.91	38.6		16 3.20	20.1	
Sept. 8	26.74 0.17	38.9 0.3		15 48.08 15.12	20.6 0.5	
18	26.56 0.18	39.0 0.1		15 32.42 15.66	20.5 0.1	
28	26.39 0.17	38.7 0.3		15 17.04 15.38	19.8 0.7	
	0.17	0.5		14.51	1.3	
Oct. 8	26.22	38.2		15 2.53	18.5	
18	26.08 0.14	37.3 0.9		14 49.43 13.10	1.8	
28	25.97 0.11	36.2 1.1		14 38.30 11.13	3	
Nov. 7	25.89 0.08	34.8 1.4		14 29.79 8.51		
	0.03	1.7		5.74		
17	25.86	33.1		14 24.05		
27	25.88 0.02	31.1 2.0		14 21.63 2.42		
Dec. 7	25.94 0.06	28.8 2.3		14 22.65 1.02		
17	* 26.07 0.13	26.6 2.2		* 14 27.27 4.62		
	0.16	2.4		7.91		
27	26.23	24.2		14 35.18		
37	7 26.43 0.20	34 22.0 2.2		14 46.02 10.8		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	β DRACONIS.		α OPHIUCHI.		γ DRACONIS.	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 17 ^m 26	^o 52 ⁱ 24	^h 17 ^m 27	^o 12 ⁱ 40	^h 17 ^m 52	^o 51 ⁱ 30
Jan. 1	48° 95' ^s	64° 4' ["]	32° 67' ^s	45° 6' ["]	53° 19' ^s	25° 2' ["]
11	49° 16' 0' 21	61° 0' 3' 4	32° 88' 0' 21	43° 4' 2' 2	53° 37' 0' 18	21° 8' 3' 4
21	49° 43' 0' 27	57° 9' 3' 1	33° 12' 0' 24	41° 4' 2' 0	53° 60' 0' 23	18° 6' 3' 2
31	49° 75' 0' 32	55° 2' 2' 7	33° 39' 0' 27	39° 5' 1' 9	53° 88' 0' 28	15° 7' 2' 9
Feb. 10	0' 37	2' 3	0' 27	1' 5	0' 34	2' 4
20	50° 12' 0' 39	52° 9' 1' 7	33° 66' 0' 29	38° 0' 1' 2	54° 22' 0' 36	13° 3' 1' 9
Mar. 2	50° 51' 0' 40	51° 2' 1' 0	33° 95' 0' 30	36° 8' 0' 9	54° 58' 0' 39	11° 4' 1' 3
12	50° 91' 0' 42	50° 2' 0' 4	34° 25' 0' 30	35° 9' 0' 4	54° 97' 0' 41	10° 1' 0' 7
	0' 41	0' 2	0' 30	0' 0	0' 40	0' 0
22	51° 74' 0' 40	50° 0' 0' 8	34° 85' 0' 29	35° 5' 0' 4	55° 78' 0' 40	9° 4' 0' 6
Apr. 1	52° 14' 0' 37	50° 8' 1' 5	35° 14' 0' 27	35° 9' 0' 8	56° 18' 0' 38	10° 0' 1' 1
11	52° 51' 0' 34	52° 3' 2' 0	35° 41' 0' 27	36° 7' 1' 2	56° 56' 0' 36	11° 1' 1' 8
21	52° 85' 0' 30	54° 3' 2' 5	35° 68' 0' 24	37° 9' 1' 4	56° 92' 0' 33	12° 9' 2' 3
May 1	53° 15' 0' 26	56° 8' 2' 8	35° 92' 0' 22	39° 3' 1' 7	57° 25' 0' 28	15° 2' 2' 7
11	53° 41' 0' 21	59° 6' 3' 0	36° 14' 0' 19	41° 0' 1' 9	57° 53' 0' 24	17° 9' 3' 0
21	53° 62' 0' 15	62° 6' 3' 3	36° 33' 0' 17	42° 9' 1' 9	57° 77' 0' 19	20° 9' 3' 2
31	53° 77' 0' 09	65° 9' 3' 2	36° 50' 0' 12	44° 8' 2' 0	57° 96' 0' 14	24° 1' 3' 3
June 10	53° 86' 0' 04	69° 1' 3' 3	36° 62' 0' 10	46° 8' 2' 0	58° 10' 0' 07	27° 4' 3' 3
20	53° 90' 0' 03	72° 4' 3' 1	36° 72' 0' 06	48° 8' 1' 9	58° 17' 0' 02	30° 7' 3' 3
30	53° 87' 0' 08	75° 5' 3' 0	36° 78' 0' 02	50° 7' 1' 8	58° 19' 0' 05	34° 0' 3' 1
July 10	53° 79' 0' 14	78° 5' 2' 7	36° 80' 0' 02	52° 5' 1' 6	58° 14' 0' 10	37° 1' 2' 9
20	53° 65' 0' 20	81° 2' 2' 3	36° 78' 0' 06	54° 1' 1' 4	58° 04' 0' 16	40° 0' 2' 6
30	53° 45' 0' 24	83° 5' 1' 9	36° 72' 0' 09	55° 5' 1' 2	57° 88' 0' 21	42° 6' 2' 2
Aug. 9	53° 21' 0' 28	85° 4' 1' 6	36° 63' 0' 12	56° 7' 1' 0	57° 67' 0' 25	44° 8' 1' 9
19	52° 93' 0' 31	87° 0' 1' 1	36° 51' 0' 15	57° 7' 0' 7	57° 42' 0' 29	46° 7' 1' 3
29	52° 62' 0' 34	88° 1' 0' 5	36° 36' 0' 17	58° 4' 0' 4	57° 13' 0' 32	48° 0' 1' 0
Sept. 8	52° 28' 0' 34	88° 6' 0' 1	36° 19' 0' 18	58° 8' 0' 2	56° 81' 0' 34	49° 0' 0' 4
18	51° 94' 0' 35	88° 7' 0' 4	36° 01' 0' 17	59° 0' 0' 1	56° 47' 0' 34	49° 4' 0' 0
28	51° 59' 0' 34	88° 3' 0' 9	35° 84' 0' 17	58° 9' 0' 4	56° 13' 0' 34	49° 4' 0' 6
Oct. 8	51° 25' 0' 31	87° 4' 1' 4	35° 67' 0' 15	58° 5' 0' 7	55° 79' 0' 32	48° 8' 1' 1
18	50° 94' 0' 27	86° 0' 1' 9	35° 52' 0' 12	57° 8' 1' 0	55° 47' 0' 29	47° 7' 1' 5
28	50° 67' 0' 23	84° 1' 2' 3	35° 40' 0' 09	56° 8' 1' 2	55° 18' 0' 24	46° 2' 2' 1
Nov. 7	50° 44' 0' 17	81° 8' 2' 8	35° 31' 0' 05	55° 6' 1' 5	54° 94' 0' 20	44° 1' 2' 4
17	50° 27' 0' 11	79° 0' 3' 2	35° 26' 0' 00	54° 1' 1' 8	54° 74' 0' 13	41° 7' 2' 8
27	50° 16' 0' 03	75° 8' 3' 1	35° 26' 0' 05	52° 3' 1' 9	54° 61' 0' 07	38° 9' 3' 2
Dec. 7	50° 13' 0' 04	72° 7' 3' 8	35° 31' 0' 10	50° 4' 2' 3	54° 54' 0' 01	35° 7' 3' 3
17	50° 17' 0' 11	68° 9' 3' 6	35° 41' 0' 15	48° 1' 2' 2	54° 53' 0' 08	32° 4' 3' 8
27	50° 28' 0' 18	65° 3' 3' 4	35° 56' 0' 18	45° 9' 2' 1	54° 61' 0' 14	28° 6' 3' 4
37	50° 46' 0' 18	61° 9' 3' 4	35° 74' 0' 18	43° 8' 2' 1	54° 75' 0' 14	25° 2' 3' 4

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	μ^1 Sagittarii.		α LYRÆ. (Vega)		β LYRÆ.	
	R. A.	Dec. South.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 18 ^m 4	[°] 21 ['] 5	^h 18 ^m 31	[°] 38 ['] 37	^h 18 ^m 44	[°] 33 ['] 10
Jan. 1	^s 14 ^s 70 ^s	["] 40 ["] 0 ["]	^s 31 ^s 99 ^s	["] 72 ["] 1 ["]	^s 11 ^s 49 ^s	["] 49 ["] 2 ["]
11	14 ⁰ 90 ⁰ 20	40 ⁰ 1 ⁰ 1	32 ⁰ 12 ⁰ 13	69 ⁰ 0 ⁰ 3 ¹	11 ⁰ 61 ⁰ 12	46 ⁰ 3 ⁰ 2 ⁹
21	15 ⁰ 14 ⁰ 24	40 ⁰ 4 ⁰ 3	32 ⁰ 29 ⁰ 17	66 ⁰ 2 ⁰ 8	11 ⁰ 77 ⁰ 16	43 ⁰ 5 ⁰ 2 ⁸
31	15 ⁰ 41 ⁰ 27	40 ⁰ 6 ⁰ 2	32 ⁰ 51 ⁰ 22	63 ⁰ 5 ⁰ 7	11 ⁰ 97 ⁰ 20	40 ⁰ 9 ⁰ 2 ⁶
	0 ⁰ 29	0 ⁰ 2	0 ⁰ 25	2 ⁰ 5	0 ⁰ 23	2 ⁰ 3
Feb. 10	15 ⁰ 70 ⁰ 30	40 ⁰ 8 ⁰ 2	32 ⁰ 76 ⁰ 29	61 ⁰ 0 ⁰ 2 ⁰	12 ⁰ 20 ⁰ 26	38 ⁰ 6 ⁰ 1 ⁹
20	16 ⁰ 00 ⁰ 32	41 ⁰ 0 ⁰ 1	33 ⁰ 05 ⁰ 31	59 ⁰ 0 ⁰ 1 ⁵	12 ⁰ 46 ⁰ 29	36 ⁰ 7 ⁰ 1 ⁴
Mar. 2	16 ⁰ 32 ⁰ 33	41 ⁰ 1 ⁰ 0	33 ⁰ 36 ⁰ 33	57 ⁰ 5 ⁰ 9	12 ⁰ 75 ⁰ 31	35 ⁰ 3 ⁰ 0 ⁹
12	16 ⁰ 65 ⁰ 32	41 ⁰ 1 ⁰ 0	33 ⁰ 69 ⁰ 33	56 ⁰ 6 ⁰ 4	13 ⁰ 06 ⁰ 32	34 ⁰ 4 ⁰ 0 ⁴
	0 ⁰ 32	0 ⁰ 0	0 ⁰ 33	0 ⁰ 4	0 ⁰ 32	0 ⁰ 4
22	16 ⁰ 97 ⁰ 33	41 ⁰ 1 ⁰ 2	34 ⁰ 02 ⁰ 35	56 ⁰ 2 ⁰ 3	13 ⁰ 38 ⁰ 33	34 ⁰ 0 ⁰ 2
Apr. 1	17 ⁰ 30 ⁰ 32	40 ⁰ 9 ⁰ 2	34 ⁰ 37 ⁰ 33	56 ⁰ 5 ⁰ 8	13 ⁰ 71 ⁰ 32	34 ⁰ 2 ⁰ 7
11	17 ⁰ 62 ⁰ 31	40 ⁰ 7 ⁰ 3	34 ⁰ 70 ⁰ 33	57 ⁰ 3 ⁰ 1 ⁴	14 ⁰ 03 ⁰ 32	34 ⁰ 9 ⁰ 1 ³
21	17 ⁰ 93 ⁰ 29	40 ⁰ 4 ⁰ 4	35 ⁰ 03 ⁰ 32	58 ⁰ 7 ⁰ 1 ⁹	14 ⁰ 35 ⁰ 31	36 ⁰ 2 ⁰ 1 ⁷
	0 ⁰ 29	0 ⁰ 4	0 ⁰ 32	1 ⁰ 9	0 ⁰ 31	1 ⁰ 7
May 1	18 ⁰ 22 ⁰ 28	40 ⁰ 0 ⁰ 3	35 ⁰ 35 ⁰ 28	60 ⁰ 6 ⁰ 2 ³	14 ⁰ 66 ⁰ 28	37 ⁰ 9 ⁰ 2 ²
11	18 ⁰ 50 ⁰ 26	39 ⁰ 7 ⁰ 4	35 ⁰ 63 ⁰ 26	62 ⁰ 9 ⁰ 2 ⁶	14 ⁰ 94 ⁰ 27	40 ⁰ 1 ⁰ 2 ⁵
21	18 ⁰ 76 ⁰ 23	39 ⁰ 3 ⁰ 4	35 ⁰ 89 ⁰ 22	65 ⁰ 5 ⁰ 2 ⁹	15 ⁰ 21 ⁰ 23	42 ⁰ 6 ⁰ 2 ⁷
31	18 ⁰ 99 ⁰ 20	38 ⁰ 9 ⁰ 3	36 ⁰ 11 ⁰ 19	68 ⁰ 4 ⁰ 3 ¹	15 ⁰ 44 ⁰ 20	45 ⁰ 3 ⁰ 2 ⁹
	0 ⁰ 20	0 ⁰ 3	0 ⁰ 19	3 ⁰ 1	0 ⁰ 20	2 ⁰ 9
June 10	19 ⁰ 19 ⁰ 16	38 ⁰ 6 ⁰ 2	36 ⁰ 30 ⁰ 14	71 ⁰ 5 ⁰ 3 ¹	15 ⁰ 64 ⁰ 15	48 ⁰ 2 ⁰ 3 ⁰
20	19 ⁰ 35 ⁰ 11	38 ⁰ 4 ⁰ 2	36 ⁰ 44 ⁰ 09	74 ⁰ 6 ⁰ 3 ¹	15 ⁰ 79 ⁰ 11	51 ⁰ 2 ⁰ 3 ⁰
30	19 ⁰ 46 ⁰ 09	38 ⁰ 2 ⁰ 1	36 ⁰ 53 ⁰ 04	77 ⁰ 7 ⁰ 3 ⁰	15 ⁰ 90 ⁰ 07	54 ⁰ 2 ⁰ 2 ⁹
July 10	19 ⁰ 55 ⁰ 03	38 ⁰ 1 ⁰ 1	36 ⁰ 57 ⁰ 01	80 ⁰ 7 ⁰ 2 ⁹	15 ⁰ 97 ⁰ 01	57 ⁰ 1 ⁰ 2 ⁸
	0 ⁰ 03	0 ⁰ 1	0 ⁰ 01	2 ⁰ 9	0 ⁰ 01	2 ⁰ 8
20	19 ⁰ 58 ⁰ 01	38 ⁰ 0 ⁰ 0	36 ⁰ 56 ⁰ 06	83 ⁰ 6 ⁰ 2 ⁷	15 ⁰ 98 ⁰ 03	59 ⁰ 9 ⁰ 2 ⁶
30	19 ⁰ 57 ⁰ 05	38 ⁰ 0 ⁰ 0	36 ⁰ 50 ⁰ 11	86 ⁰ 3 ⁰ 2 ³	15 ⁰ 95 ⁰ 08	62 ⁰ 5 ⁰ 2 ³
Aug. 9	19 ⁰ 52 ⁰ 09	38 ⁰ 0 ⁰ 1	36 ⁰ 39 ⁰ 15	88 ⁰ 6 ⁰ 2 ¹	15 ⁰ 87 ⁰ 12	64 ⁰ 8 ⁰ 2 ⁰
19	19 ⁰ 43 ⁰ 13	38 ⁰ 1 ⁰ 0	36 ⁰ 24 ⁰ 18	90 ⁰ 7 ⁰ 1 ⁶	15 ⁰ 75 ⁰ 16	66 ⁰ 8 ⁰ 1 ⁷
	0 ⁰ 13	0 ⁰ 0	0 ⁰ 18	1 ⁰ 6	0 ⁰ 16	1 ⁰ 7
29	19 ⁰ 30 ⁰ 14	38 ⁰ 1 ⁰ 0	36 ⁰ 06 ⁰ 22	92 ⁰ 3 ⁰ 1 ³	15 ⁰ 59 ⁰ 18	68 ⁰ 5 ⁰ 1 ³
Sept. 8	19 ⁰ 16 ⁰ 17	38 ⁰ 1 ⁰ 0	35 ⁰ 84 ⁰ 24	93 ⁰ 6 ⁰ 0 ⁹	15 ⁰ 41 ⁰ 22	69 ⁰ 8 ⁰ 0 ⁹
18	18 ⁰ 99 ⁰ 18	38 ⁰ 1 ⁰ 1	35 ⁰ 60 ⁰ 25	94 ⁰ 5 ⁰ 0 ⁴	15 ⁰ 19 ⁰ 23	70 ⁰ 7 ⁰ 0 ⁴
28	18 ⁰ 81 ⁰ 16	38 ⁰ 0 ⁰ 1	35 ⁰ 35 ⁰ 25	94 ⁰ 9 ⁰ 0 ¹	14 ⁰ 96 ⁰ 23	71 ⁰ 1 ⁰ 0 ¹
	0 ⁰ 16	0 ⁰ 1	0 ⁰ 25	0 ⁰ 1	0 ⁰ 23	0 ⁰ 1
Oct. 8	18 ⁰ 65 ⁰ 16	37 ⁰ 9 ⁰ 1	35 ⁰ 10 ⁰ 25	94 ⁰ 8 ⁰ 0 ⁵	14 ⁰ 73 ⁰ 21	71 ⁰ 2 ⁰ 0 ⁴
18	18 ⁰ 49 ⁰ 13	37 ⁰ 8 ⁰ 2	34 ⁰ 85 ⁰ 23	94 ⁰ 3 ⁰ 1 ⁰	14 ⁰ 52 ⁰ 0	70 ⁰ 8 ⁰ 0 ⁸
28	18 ⁰ 36 ⁰ 10	37 ⁰ 6 ⁰ 1	34 ⁰ 62 ⁰ 19	93 ⁰ 3 ⁰ 1 ⁵	14 ⁰ 31 ⁰ 0	70 ⁰ 0 ⁰ 2
Nov. 7	18 ⁰ 26 ⁰ 06	37 ⁰ 5 ⁰ 2	34 ⁰ 43 ⁰ 16	91 ⁰ 8 ⁰ 1 ⁸	14 ⁰ 13 ⁰ 0	70 ⁰ 0 ⁰ 1
	0 ⁰ 06	0 ⁰ 2	0 ⁰ 16	1 ⁰ 8	0 ⁰ 0	0 ⁰ 1
17	18 ⁰ 20 ⁰ 01	37 ⁰ 3 ⁰ 1	34 ⁰ 27 ⁰ 11	90 ⁰ 0 ⁰ 2 ³	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0
27	18 ⁰ 19 ⁰ 04	37 ⁰ 2 ⁰ 0	34 ⁰ 16 ⁰ 07	87 ⁰ 7 ⁰ 2 ⁶	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0
Dec. 7	18 ⁰ 23 ⁰ 09	37 ⁰ 2 ⁰ 0	34 ⁰ 09 ⁰ 01	85 ⁰ 1 ⁰ 2 ⁸	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0
17	18 ⁰ 32 ⁰ 13	37 ⁰ 2 ⁰ 1	34 ⁰ 08 ⁰ 04	82 ⁰ 3 ⁰ 3 ⁰	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0
	0 ⁰ 13	0 ⁰ 1	0 ⁰ 04	3 ⁰ 0	0 ⁰ 0	0 ⁰ 0
27	18 ⁰ 45 ⁰ 18	37 ⁰ 3 ⁰ 1	34 ⁰ 12 ⁰ 10	79 ⁰ 3 ⁰ 3 ⁴	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0
37	18 ⁰ 63 ⁰ 18	37 ⁰ 4 ⁰ 1	34 ⁰ 22 ⁰ 10	75 ⁰ 9 ⁰ 3 ⁴	13 ⁰ 0 ⁰ 0	70 ⁰ 0 ⁰ 0

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	ζ AQUILÆ.		δ AQUILÆ.		γ AQUILÆ.	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. North.
	^h 18 ^m 58	^o 13 ['] 37	^h 19 ^m 17	^o 2 ['] 47	^h 19 ^m 38	^o 10 ['] 13
Jan. 1	^s 5 ^s 35 ^s 0 ^s 12	["] 51 ["] 8 ["] 2 ["] 2	^s 28 ^s 14 ^s 0 ^s 12	["] 65 ["] 6 ["] 1 ["] 5	^s 41 ^s 26 ^s 0 ^s 08	["] 46 ["] 6 ["] 1 ["] 7
11	* 5 ^s 47 ^s 0 ^s 16	49 ["] 6 ["] 1 ["] 9	* 28 ^s 26 ^s 0 ^s 14	64 ["] 1 ["] 3	* 41 ^s 34 ^s 0 ^s 12	44 ["] 9 ["] 1 ["] 9
21	5 ^s 63 ^s 0 ^s 18	47 ["] 7 ["] 1 ["] 8	28 ^s 40 ^s 0 ^s 17	62 ["] 8 ["] 1 ["] 2	* 41 ^s 46 ^s 0 ^s 16	43 ["] 0 ["] 1 ["] 5
31	5 ^s 81 ^s 0 ^s 22	45 ["] 9 ["] 1 ["] 6	28 ^s 57 ^s 0 ^s 21	61 ["] 6 ["] 1 ["] 0	41 ^s 62 ^s 0 ^s 18	41 ["] 5 ["] 1 ["] 4
Feb. 10	6 ^s 03 ^s 0 ^s 24	44 ["] 3 ["] 1 ["] 3	28 ^s 78 ^s 0 ^s 23	60 ["] 6 ["] 0 ["] 8	41 ^s 80 ^s 0 ^s 21	40 ["] 1 ["] 1 ["] 2
20	6 ^s 27 ^s 0 ^s 27	43 ["] 0 ["] 1 ["] 0	29 ^s 01 ^s 0 ^s 25	59 ["] 8 ["] 0 ["] 6	42 ^s 01 ^s 0 ^s 23	38 ["] 9 ["] 0 ["] 8
Mar. 2	6 ^s 54 ^s 0 ^s 27	42 ["] 0 ["] 0 ["] 5	29 ^s 26 ^s 0 ^s 27	59 ["] 2 ["] 0 ["] 3	42 ^s 24 ^s 0 ^s 26	38 ["] 1 ["] 0 ["] 5
12	6 ^s 81 ^s 0 ^s 29	41 ["] 5 ["] 0 ["] 2	29 ^s 53 ^s 0 ^s 28	58 ["] 9 ["] 0 ["] 1	42 ^s 50 ^s 0 ^s 27	37 ["] 6 ["] 0 ["] 1
22	7 ^s 10 ^s 0 ^s 30	41 ["] 3 ["] 0 ["] 3	29 ^s 81 ^s 0 ^s 29	59 ["] 0 ["] 0 ["] 4	42 ^s 77 ^s 0 ^s 28	37 ["] 5 ["] 0 ["] 2
Apr. 1	7 ^s 40 ^s 0 ^s 30	41 ["] 6 ["] 0 ["] 7	30 ^s 10 ^s 0 ^s 30	59 ["] 4 ["] 0 ["] 7	43 ^s 05 ^s 0 ^s 30	37 ["] 7 ["] 0 ["] 7
11	7 ^s 70 ^s 0 ^s 29	42 ["] 3 ["] 1 ["] 1	30 ^s 40 ^s 0 ^s 29	60 ["] 1 ["] 1 ["] 0	43 ^s 35 ^s 0 ^s 30	38 ["] 4 ["] 1 ["] 0
21	7 ^s 99 ^s 0 ^s 30	43 ["] 4 ["] 1 ["] 4	30 ^s 69 ^s 0 ^s 30	61 ["] 1 ["] 1 ["] 2	43 ^s 65 ^s 0 ^s 30	39 ["] 4 ["] 1 ["] 4
May 1	8 ^s 29 ^s 0 ^s 28	44 ["] 8 ["] 1 ["] 7	30 ^s 99 ^s 0 ^s 29	62 ["] 3 ["] 1 ["] 5	43 ^s 95 ^s 0 ^s 30	40 ["] 8 ["] 1 ["] 6
11	8 ^s 57 ^s 0 ^s 26	46 ["] 5 ["] 2 ["] 0	31 ^s 28 ^s 0 ^s 28	63 ["] 8 ["] 1 ["] 6	44 ^s 25 ^s 0 ^s 28	42 ["] 4 ["] 1 ["] 9
21	8 ^s 83 ^s 0 ^s 24	48 ["] 5 ["] 2 ["] 1	31 ^s 56 ^s 0 ^s 25	65 ["] 4 ["] 1 ["] 8	44 ^s 53 ^s 0 ^s 27	44 ["] 3 ["] 2 ["] 0
31	9 ^s 07 ^s 0 ^s 20	50 ["] 6 ["] 2 ["] 3	31 ^s 81 ^s 0 ^s 23	67 ["] 2 ["] 1 ["] 8	44 ^s 80 ^s 0 ^s 24	46 ["] 3 ["] 2 ["] 1
June 10	9 ^s 27 ^s 0 ^s 18	52 ["] 9 ["] 2 ["] 2	32 ^s 04 ^s 0 ^s 21	69 ["] 0 ["] 1 ["] 8	45 ^s 04 ^s 0 ^s 22	48 ["] 4 ["] 2 ["] 2
20	9 ^s 45 ^s 0 ^s 15	55 ["] 1 ["] 2 ["] 2	32 ^s 25 ^s 0 ^s 16	70 ["] 8 ["] 1 ["] 8	45 ^s 26 ^s 0 ^s 18	50 ["] 6 ["] 2 ["] 2
30	9 ^s 60 ^s 0 ^s 10	57 ["] 3 ["] 2 ["] 2	32 ^s 41 ^s 0 ^s 13	72 ["] 6 ["] 1 ["] 7	45 ^s 44 ^s 0 ^s 14	52 ["] 8 ["] 2 ["] 1
July 10	9 ^s 70 ^s 0 ^s 05	59 ["] 5 ["] 2 ["] 2	32 ^s 54 ^s 0 ^s 08	74 ["] 3 ["] 1 ["] 6	45 ^s 58 ^s 0 ^s 10	54 ["] 9 ["] 2 ["] 0
20	9 ^s 75 ^s 0 ^s 02	61 ["] 7 ["] 1 ["] 8	32 ^s 62 ^s 0 ^s 04	75 ["] 9 ["] 1 ["] 4	45 ^s 68 ^s 0 ^s 05	56 ["] 9 ["] 1 ["] 9
30	9 ^s 77 ^s 0 ^s 04	63 ["] 5 ["] 1 ["] 6	32 ^s 66 ^s 0 ^s 00	77 ["] 3 ["] 1 ["] 2	45 ^s 73 ^s 0 ^s 01	58 ["] 8 ["] 1 ["] 7
Aug. 9	9 ^s 73 ^s 0 ^s 06	65 ["] 1 ["] 1 ["] 5	32 ^s 66 ^s 0 ^s 04	78 ["] 5 ["] 1 ["] 0	45 ^s 74 ^s 0 ^s 03	60 ["] 5 ["] 1 ["] 4
19	9 ^s 67 ^s 0 ^s 11	66 ["] 6 ["] 1 ["] 2	32 ^s 62 ^s 0 ^s 08	79 ["] 5 ["] 0 ["] 9	45 ^s 71 ^s 0 ^s 08	61 ["] 9 ["] 1 ["] 3
29	9 ^s 56 ^s 0 ^s 14	67 ["] 8 ["] 0 ["] 9	32 ^s 54 ^s 0 ^s 12	80 ["] 4 ["] 0 ["] 6	45 ^s 63 ^s 0 ^s 10	63 ["] 2 ["] 1 ["] 0
Sept. 8	9 ^s 42 ^s 0 ^s 16	68 ["] 7 ["] 0 ["] 6	32 ^s 42 ^s 0 ^s 14	81 ["] 0 ["] 0 ["] 5	45 ^s 53 ^s 0 ^s 14	64 ["] 2 ["] 0 ["] 7
18	9 ^s 26 ^s 0 ^s 17	69 ["] 3 ["] 0 ["] 4	32 ^s 28 ^s 0 ^s 15	81 ["] 5 ["] 0 ["] 2	45 ^s 39 ^s 0 ^s 15	64 ["] 9 ["] 0 ["] 5
28	9 ^s 09 ^s 0 ^s 18	69 ["] 7 ["] 0 ["] 0	32 ^s 13 ^s 0 ^s 17	81 ["] 7 ["] 0 ["] 1	45 ^s 24 ^s 0 ^s 17	65 ["] 4 ["] 0 ["] 2
Oct. 8	8 ^s 91 ^s 0 ^s 17	69 ["] 7 ["] 0 ["] 2	31 ^s 96 ^s 0 ^s 16	81 ["] 8 ["] 0 ["] 2	45 ^s 07 ^s 0 ^s 17	65 ["] 6 ["] 0 ["] 1
18	8 ^s 74 ^s 0 ^s 16	69 ["] 5 ["] 0 ["] 5	31 ^s 80 ^s 0 ^s 16	81 ["] 6 ["] 0 ["] 3	44 ^s 90 ^s 0 ^s 16	65 ["] 5 ["] 0 ["] 2
28	8 ^s 58 ^s 0 ^s 14	69 ["] 0 ["] 0 ["] 8	31 ^s 64 ^s 0 ^s 13	81 ["] 3 ["] 0 ["] 5	44 ^s 74 ^s 0 ^s 15	65 ["] 3 ["] 0 ["] 6
Nov. 7	8 ^s 44 ^s 0 ^s 11	68 ["] 2 ["] 1 ["] 1	31 ^s 51 ^s 0 ^s 11	80 ["] 8 ["] 0 ["] 8	44 ^s 59 ^s 0 ^s 12	64 ["] 7 ["] 0 ["] 9
17	8 ^s 33 ^s 0 ^s 08	67 ["] 1 ["] 1 ["] 4	31 ^s 40 ^s 0 ^s 07	80 ["] 0 ["] 0 ["] 9	44 ^s 47 ^s 0 ^s 09	63 ["] 8 ["] 1 ["] 0
27	8 ^s 25 ^s 0 ^s 03	65 ["] 7 ["] 1 ["] 5	31 ^s 33 ^s 0 ^s 04	79 ["] 1 ["] 1 ["] 0	44 ^s 38 ^s 0 ^s 06	62 ["] 8 ["] 1 ["] 3
Dec. 7	8 ^s 22 ^s 0 ^s 01	64 ["] 2 ["] 1 ["] 8	31 ^s 29 ^s 0 ^s 00	78 ["] 1 ["] 1 ["] 2	44 ^s 32 ^s 0 ^s 03	61 ["] 5 ["] 1 ["] 4
17	8 ^s 23 ^s 0 ^s 05	62 ["] 4 ["] 1 ["] 9	31 ^s 29 ^s 0 ^s 05	76 ["] 9 ["] 1 ["] 3	44 ^s 29 ^s 0 ^s 02	60 ["] 1 ["] 1 ["] 6
27	* 8 ^s 28 ^s 0 ^s 09	60 ["] 5 ["] 2 ["] 2	31 ^s 34 ^s 0 ^s 08	75 ["] 6 ["] 1 ["] 3	44 ^s 31 ^s 0 ^s 06	58 ["] 5 ["] 1 ["] 6
37	* 8 ^s 37 ^s 0 ^s 09	58 ["] 3 ["] 2 ["] 2	31 ^s 42 ^s 0 ^s 08	74 ["] 3 ["] 1 ["] 3	44 ^s 37 ^s 0 ^s 06	56 ["] 9 ["] 1 ["] 6

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α AQUILÆ. (Altair)		β AQUILÆ.		α^x CAPRICORNI.	
	R. A.	Dec. North.	R. A.	Dec. North.	R. A.	Dec. South.
	^h 19 ^m 43	[°] 8 ['] 26	^h 19 ^m 47	[°] 6 ['] 0	^h 20 ^m 9	[°] 13 ['] 1
Jan. 1	^s 0.79 ^s	64.2 ["]	^s 29.50 ^s	48.2 ["]	^s 13.15 ^s	61.2 ["]
11	0.86 0.07	62.6 1.6	29.57 0.07	46.8 1.4	13.21 0.06	61.5 0.3
21	* 0.97 0.11	60.9 1.7	* 29.70 0.13	45.2 1.6	13.31 0.10	61.7 0.2
31	1.13 0.16	59.5 1.4	29.84 0.14	43.9 1.3	* 13.46 0.15	61.8 0.1
	0.19	1.3	0.18	1.2	0.17	0.0
Feb. 10	1.32	58.2	30.02	42.7	13.63	61.8
20	1.52 0.20	57.2 1.0	30.22 0.20	41.8 0.9	13.83 0.20	61.7 0.1
Mar. 2	1.75 0.23	56.4 0.8	30.45 0.23	41.1 0.7	14.05 0.22	61.4 0.3
12	2.01 0.26	55.9 0.5	30.70 0.25	40.7 0.4	14.30 0.25	60.9 0.5
	0.27	0.0	0.27	0.0	0.27	0.6
22	2.28	55.9	30.97	40.7	14.57	60.3
Apr. 1	2.56 0.28	56.2 0.3	31.25 0.28	41.0 0.3	14.85 0.28	59.5 0.8
11	2.86 0.30	56.8 0.6	31.54 0.29	41.7 0.7	15.15 0.30	58.4 1.1
21	3.16 0.30	57.8 1.0	31.84 0.30	42.7 1.0	15.46 0.31	57.3 1.1
	0.30	1.4	0.31	1.3	0.32	1.3
May 1	3.46	59.2	32.15	44.0	15.78	56.0
11	3.76 0.30	60.8 1.6	32.44 0.29	45.6 1.6	16.10 0.32	54.7 1.3
21	4.04 0.28	62.6 1.8	32.73 0.29	47.3 1.7	16.41 0.31	53.3 1.4
31	4.32 0.28	64.6 2.0	33.01 0.28	49.2 1.9	16.71 0.30	52.0 1.3
	0.25	2.1	0.25	2.0	0.28	1.3
June 10	4.57	66.7	33.26	51.2	16.99	50.7
20	4.79 0.22	68.8 2.1	33.48 0.22	53.2 2.0	17.25 0.26	49.4 1.3
30	4.97 0.18	70.9 2.1	33.67 0.19	55.2 2.0	17.48 0.23	48.3 1.1
July 10	5.12 0.15	73.0 2.1	33.82 0.15	57.1 1.9	17.66 0.18	47.3 1.0
	0.10	1.9	0.11	1.8	0.14	0.8
20	5.22	74.9	33.93	58.9	17.80	46.5
30	5.28 0.06	76.7 1.3	34.00 0.07	60.6 1.7	17.90 0.10	45.8 0.7
Aug. 9	5.30 0.02	78.3 1.6	34.02 0.02	62.1 1.5	17.95 0.05	45.3 0.5
19	5.27 0.03	79.7 1.4	33.99 0.03	63.3 1.2	17.96 0.01	45.0 0.3
	0.06	1.1	0.06	1.1	0.04	0.1
29	5.21	80.8	33.93	64.4	17.92	44.9
Sept. 8	5.11 0.10	81.8 1.0	33.84 0.09	65.2 0.8	17.85 0.07	44.8 0.1
18	4.97 0.14	82.5 0.7	33.71 0.13	65.8 0.6	17.74 0.11	44.9 0.1
28	4.82 0.15	82.9 0.4	33.56 0.15	66.2 0.4	17.61 0.13	45.0 0.1
	0.16	0.2	0.16	0.2	0.15	0.2
Oct. 8	4.66	83.1	33.40	66.4	17.46	45.2
18	4.50 0.16	83.1 0.0	33.24 0.16	66.3 0.1	17.30 0.16	45.5 0.3
28	4.34 0.16	82.8 0.3	33.08 0.16	66.0 0.3	17.14 0.16	45.7 0.2
Nov. 7	4.19 0.15	82.2 0.6	32.94 0.14	65.4 0.6	17.00 0.14	46.1 0.4
	0.12	0.7	0.12	0.6	0.12	0.0
17	4.07	81.5	32.82	64.8	16.88	45.8
27	3.98 0.09	80.5 1.0	32.72 0.10	63.9 0.9	16.78 0.10	45.5
Dec. 7	3.92 0.06	79.3 1.2	32.66 0.06	62.8 1.1	16.71 0.06	45.2
17	3.90 0.02	78.0 1.3	32.64 0.02	61.5 1.3	16.61	45.0
	0.02	1.5	0.01	1.3		
27	3.92	76.5	32.65	60.2	16.4	44.8
37	3.97 0.05	74.9 1.6	32.70 0.05	58.8 1.4	16.2	44.6

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α Pavonis.		λ Ursæ Minoris.	
	R. A.	Dec. South.	R. A.	Dec. North.
	^h 20	^o 57	^h 20	^o 88
Jan. 1	13 ^m 0 ^s 94 ^s	14 ⁱ 25 ^u 1 ^u	19 ^m 23 ^s 81 ^s	50 ⁱ 1 ^u 8 ^u
11	1 ^s 01 ^s 0 ^s 07 ^s	22 ^u 8 ^u 2 ^u 3 ^u	18 ^s 51 ^s 5 ^s 30 ^s	49 ^u 59 ^u 0 ^u 2 ^u 8 ^u
21	1 ^s 15 ^s 0 ^s 14 ^s	20 ^u 4 ^u 2 ^u 4 ^u	15 ^s 27 ^s 3 ^s 24 ^s	55 ^u 9 ^u 3 ^u 1 ^u
31	* 1 ^s 37 ^s 0 ^s 22 ^s	17 ^u 7 ^u 2 ^u 7 ^u	* 14 ^s 28 ^s 0 ^s 99 ^s	52 ^u 5 ^u 3 ^u 4 ^u
	0 ^s 27 ^s	2 ^u 5 ^u	1 ^s 14 ^s	3 ^u 2 ^u
Feb. 10	1 ^s 64 ^s 0 ^s 33 ^s	15 ^u 2 ^u	15 ^s 42 ^s 3 ^s 21 ^s	49 ^u 3 ^u 2 ^u 9 ^u
20	1 ^s 97 ^s 0 ^s 37 ^s	12 ^u 8 ^u 2 ^u 4 ^u	18 ^s 63 ^s 5 ^s 13 ^s	46 ^u 4 ^u 2 ^u 8 ^u
Mar. 2	2 ^s 34 ^s 0 ^s 41 ^s	10 ^u 5 ^u 2 ^u 1 ^u	23 ^s 76 ^s 6 ^s 77 ^s	43 ^u 6 ^u 2 ^u 3 ^u
12	2 ^s 75 ^s 0 ^s 45 ^s	8 ^u 4 ^u 2 ^u 0 ^u	30 ^s 53 ^s 8 ^s 13 ^s	41 ^u 3 ^u 1 ^u 8 ^u
	3 ^s 20 ^s 0 ^s 48 ^s	6 ^u 4 ^u 1 ^u 7 ^u	38 ^s 66 ^s 9 ^s 14 ^s	39 ^u 5 ^u 1 ^u 4 ^u
Apr. 1	3 ^s 68 ^s 0 ^s 51 ^s	4 ^u 7 ^u 1 ^u 4 ^u	47 ^s 80 ^s 9 ^s 84 ^s	38 ^u 1 ^u 0 ^u 7 ^u
11	4 ^s 19 ^s 0 ^s 52 ^s	3 ^u 3 ^u 1 ^u 2 ^u	19 57 ^s 64 ^s 10 ^s 16 ^s	37 ^u 4 ^u 0 ^u 1 ^u
21	4 ^s 71 ^s 0 ^s 53 ^s	2 ^u 1 ^u 0 ^u 9 ^u	20 7 ^s 80 ^s 9 ^s 95 ^s	37 ^u 3 ^u 0 ^u 4 ^u
May 1	5 ^s 24 ^s 0 ^s 52 ^s	1 ^u 2 ^u 0 ^u 6 ^u	17 ^s 75 ^s 9 ^s 54 ^s	37 ^u 7 ^u 1 ^u 1 ^u
11	5 ^s 76 ^s 0 ^s 52 ^s	0 ^u 6 ^u 0 ^u 2 ^u	27 ^s 29 ^s 8 ^s 78 ^s	38 ^u 8 ^u 1 ^u 6 ^u
21	6 ^s 28 ^s 0 ^s 49 ^s	0 ^u 4 ^u 0 ^u 2 ^u	36 ^s 07 ^s 7 ^s 70 ^s	40 ^u 4 ^u 2 ^u 1 ^u
31	6 ^s 77 ^s 0 ^s 46 ^s	0 ^u 6 ^u 0 ^u 4 ^u	43 ^s 77 ^s 6 ^s 41 ^s	42 ^u 5 ^u 2 ^u 6 ^u
June 10	7 ^s 23 ^s 0 ^s 42 ^s	1 ^u 0 ^u 0 ^u 8 ^u	50 ^s 18 ^s 4 ^s 92 ^s	45 ^u 1 ^u 2 ^u 8 ^u
20	7 ^s 65 ^s 0 ^s 36 ^s	1 ^u 8 ^u 1 ^u 2 ^u	55 ^s 10 ^s 3 ^s 34 ^s	47 ^u 9 ^u 3 ^u 2 ^u
30	8 ^s 01 ^s 0 ^s 30 ^s	3 ^u 0 ^u 1 ^u 4 ^u	20 58 ^s 44 ^s 1 ^s 61 ^s	51 ^u 1 ^u 3 ^u 3 ^u
July 10	8 ^s 31 ^s 0 ^s 22 ^s	4 ^u 4 ^u 1 ^u 6 ^u	21 0 ^s 05 ^s 0 ^s 11 ^s	54 ^u 4 ^u 3 ^u 5 ^u
	8 ^s 53 ^s 0 ^s 15 ^s	6 ^u 0 ^u 1 ^u 8 ^u	20 59 ^s 94 ^s 1 ^s 83 ^s	49 ^u 57 ^u 9 ^u 3 ^u 5 ^u
20	8 ^s 68 ^s 0 ^s 08 ^s	7 ^u 8 ^u 1 ^u 9 ^u	58 ^s 11 ^s 3 ^s 55 ^s	50 ^u 1 ^u 4 ^u 3 ^u 5 ^u
30	8 ^s 76 ^s 0 ^s 01 ^s	9 ^u 7 ^u 1 ^u 9 ^u	54 ^s 56 ^s 5 ^s 14 ^s	4 ^u 9 ^u 3 ^u 3 ^u
Aug. 9	8 ^s 75 ^s 0 ^s 09 ^s	11 ^u 6 ^u 1 ^u 9 ^u	49 ^s 42 ^s 6 ^s 62 ^s	8 ^u 2 ^u 3 ^u 2 ^u
19	8 ^s 66 ^s 0 ^s 15 ^s	13 ^u 5 ^u 1 ^u 7 ^u	42 ^s 80 ^s 8 ^s 06 ^s	11 ^u 4 ^u 3 ^u 0 ^u
29	8 ^s 51 ^s 0 ^s 22 ^s	15 ^u 2 ^u 1 ^u 6 ^u	34 ^s 74 ^s 9 ^s 28 ^s	14 ^u 4 ^u 2 ^u 6 ^u
Sept. 8	8 ^s 29 ^s 0 ^s 26 ^s	16 ^u 8 ^u 1 ^u 3 ^u	25 ^s 46 ^s 10 ^s 32 ^s	17 ^u 0 ^u 2 ^u 2 ^u
18	8 ^s 03 ^s 0 ^s 30 ^s	18 ^u 1 ^u 1 ^u 0 ^u	15 ^s 14 ^s 11 ^s 11 ^s	19 ^u 2 ^u 1 ^u 8 ^u
28	7 ^s 73 ^s 0 ^s 32 ^s	19 ^u 1 ^u 0 ^u 5 ^u	20 4 ^s 03 ^s 11 ^s 76 ^s	21 ^u 0 ^u 1 ^u 5 ^u
Oct. 8	7 ^s 41 ^s 0 ^s 32 ^s	19 ^u 6 ^u 0 ^u 2 ^u	19 52 ^s 27 ^s 12 ^s 09 ^s	22 ^u 5 ^u 0 ^u 9 ^u
18	7 ^s 09 ^s 0 ^s 30 ^s	19 ^u 6 ^u 0 ^u 2 ^u	40 ^s 18 ^s 12 ^s 17 ^s	23 ^u 4 ^u 0 ^u 3 ^u
28	6 ^s 79 ^s 0 ^s 27 ^s	19 ^u 6 ^u 0 ^u 8 ^u	28 ^s 01 ^s 11 ^s 98 ^s	23 ^u 7 ^u 0 ^u 2 ^u
Nov. 7	6 ^s 52 ^s 0 ^s 23 ^s	18 ^u 8 ^u 1 ^u 0 ^u	16 ^s 03 ^s 11 ^s 40 ^s	23 ^u 5 ^u 0 ^u 8 ^u
17	6 ^s 29 ^s 0 ^s 17 ^s	17 ^u 8 ^u 1 ^u 4 ^u	19 4 ^s 63 ^s 10 ^s 57 ^s	21 ^u 4 ^u 1 ^u 3 ^u
27	6 ^s 12 ^s 0 ^s 11 ^s	16 ^u 4 ^u 1 ^u 7 ^u	18 54 ^s 06 ^s 9 ^s 40 ^s	19 ^u 6 ^u 2 ^u 3 ^u
Dec. 7	6 ^s 01 ^s 0 ^s 04 ^s	14 ^u 7 ^u 2 ^u 1 ^u	44 ^s 66 ^s 7 ^s 93 ^s	17 ^u 3 ^u 2 ^u 4 ^u
17	5 ^s 97 ^s 0 ^s 03 ^s	12 ^u 6 ^u 2 ^u 3 ^u	36 ^s 73 ^s 6 ^s 20 ^s	50 ^u 14 ^u 7 ^u 2 ^u 4 ^u
27	13 6 ^s 00 ^s	14 10 ^s 3 ^s	18 30 ^s 53 ^s	

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α CYGNI.				61 ¹ CYGNI.				ζ Cygni.			
	R. A.		Dec. North.		R. A.		Dec. North.		R. A.		Dec. North.	
	^h 20	^m 35	^o 44	ⁱ 42	^h 20	^m 59	^o 37	ⁱ 58	^h 21	^m 6	^o 29	ⁱ 34
Jan. 1	59 ^s 35 ^s		56 ^h 0 ^h	2 ^m 7 ^m	45 ^s 44 ^s		22 ^h 0 ^h	2 ^m 4 ^m	9 ^s 52 ^s		45 ^h 5 ^h	2 ^m 2 ^m
11	59 ^s 31 ^s	0 ^s 04 ^s	53 ^h 3 ^h	2 ^m 9 ^m	45 ^s 40 ^s	0 ^s 04 ^s	19 ^h 6 ^h	2 ^m 5 ^m	9 ^s 49 ^s	0 ^s 03 ^s	43 ^h 3 ^h	2 ^m 2 ^m
21	59 ^s 32 ^s	0 ^s 01 ^s	50 ^h 4 ^h	3 ^m 3 ^m	45 ^s 41 ^s	0 ^s 01 ^s	17 ^h 1 ^h	2 ^m 5 ^m	9 ^s 50 ^s	0 ^s 01 ^s	41 ^h 1 ^h	2 ^m 2 ^m
31	59 ^s 39 ^s	0 ^s 07 ^s	47 ^h 1 ^h	2 ^m 7 ^m	45 ^s 46 ^s	0 ^s 05 ^s	14 ^h 6 ^h	2 ^m 7 ^m	9 ^s 54 ^s	0 ^s 04 ^s	38 ^h 8 ^h	2 ^m 3 ^m
Feb. 10		0 ^s 12 ^s		2 ^m 7 ^m		0 ^s 10 ^s		2 ^m 7 ^m		0 ^s 09 ^s		2 ^m 5 ^m
20	59 ^s 51 ^s	0 ^s 16 ^s	44 ^h 4 ^h	2 ^m 6 ^m	45 ^s 56 ^s	0 ^s 14 ^s	11 ^h 9 ^h	2 ^m 3 ^m	9 ^s 63 ^s	0 ^s 13 ^s	36 ^h 3 ^h	2 ^m 0 ^m
Mar. 2	59 ^s 67 ^s	0 ^s 21 ^s	41 ^h 8 ^h	2 ^m 3 ^m	45 ^s 70 ^s	0 ^s 19 ^s	9 ^h 6 ^h	2 ^m 0 ^m	9 ^s 76 ^s	0 ^s 16 ^s	34 ^h 3 ^h	1 ^m 8 ^m
12	59 ^s 88 ^s	0 ^s 26 ^s	39 ^h 5 ^h	1 ^m 9 ^m	45 ^s 89 ^s	0 ^s 22 ^s	7 ^h 6 ^h	1 ^m 7 ^m	9 ^s 92 ^s	0 ^s 20 ^s	32 ^h 5 ^h	1 ^m 4 ^m
	60 ^s 14 ^s		37 ^h 6 ^h	1 ^m 3 ^m	46 ^s 11 ^s		5 ^h 9 ^h	1 ^m 2 ^m	10 ^s 12 ^s	0 ^s 23 ^s	31 ^h 1 ^h	1 ^m 1 ^m
22		0 ^s 28 ^s		1 ^m 3 ^m		0 ^s 27 ^s		1 ^m 2 ^m		0 ^s 23 ^s		1 ^m 1 ^m
Apr. 1	60 ^s 42 ^s	0 ^s 33 ^s	36 ^h 3 ^h	0 ^m 9 ^m	46 ^s 38 ^s	0 ^s 29 ^s	4 ^h 7 ^h	0 ^m 7 ^m	10 ^s 35 ^s	0 ^s 26 ^s	30 ^h 0 ^h	0 ^m 5 ^m
11	60 ^s 75 ^s	0 ^s 35 ^s	35 ^h 4 ^h	0 ^m 2 ^m	46 ^s 67 ^s	0 ^s 33 ^s	4 ^h 0 ^h	0 ^m 2 ^m	10 ^s 61 ^s	0 ^s 29 ^s	29 ^h 5 ^h	0 ^m 1 ^m
21	61 ^s 10 ^s	0 ^s 37 ^s	35 ^h 2 ^h	0 ^m 3 ^m	47 ^s 00 ^s	0 ^s 34 ^s	3 ^h 8 ^h	0 ^m 4 ^m	10 ^s 90 ^s	0 ^s 31 ^s	29 ^h 4 ^h	0 ^m 5 ^m
	61 ^s 47 ^s	0 ^s 38 ^s	35 ^h 5 ^h	1 ^m 0 ^m	47 ^s 34 ^s	0 ^s 36 ^s	4 ^h 2 ^h	0 ^m 9 ^m	11 ^s 21 ^s	0 ^s 33 ^s	29 ^h 9 ^h	0 ^m 9 ^m
May 1	61 ^s 85 ^s	0 ^s 38 ^s	36 ^h 5 ^h	1 ^m 4 ^m	47 ^s 70 ^s	0 ^s 37 ^s	5 ^h 1 ^h	1 ^m 4 ^m	11 ^s 54 ^s	0 ^s 33 ^s	30 ^h 8 ^h	1 ^m 4 ^m
11	62 ^s 23 ^s	0 ^s 37 ^s	37 ^h 9 ^h	2 ^m 0 ^m	48 ^s 07 ^s	0 ^s 36 ^s	6 ^h 5 ^h	2 ^m 0 ^m	11 ^s 87 ^s	0 ^s 34 ^s	32 ^h 2 ^h	1 ^m 8 ^m
21	62 ^s 60 ^s	0 ^s 34 ^s	39 ^h 9 ^h	2 ^m 4 ^m	48 ^s 43 ^s	0 ^s 35 ^s	8 ^h 5 ^h	2 ^m 3 ^m	12 ^s 21 ^s	0 ^s 32 ^s	34 ^h 0 ^h	2 ^m 2 ^m
31	62 ^s 94 ^s	0 ^s 33 ^s	42 ^h 3 ^h	2 ^m 8 ^m	48 ^s 78 ^s	0 ^s 33 ^s	10 ^h 8 ^h	2 ^m 7 ^m	12 ^s 53 ^s	0 ^s 31 ^s	36 ^h 2 ^h	2 ^m 5 ^m
June 10	63 ^s 27 ^s	0 ^s 28 ^s	45 ^h 1 ^h	3 ^m 0 ^m	49 ^s 11 ^s	0 ^s 31 ^s	13 ^h 5 ^h	2 ^m 9 ^m	12 ^s 84 ^s	0 ^s 29 ^s	38 ^h 7 ^h	2 ^m 7 ^m
20	63 ^s 55 ^s	0 ^s 25 ^s	48 ^h 1 ^h	3 ^m 3 ^m	49 ^s 42 ^s	0 ^s 26 ^s	16 ^h 4 ^h	3 ^m 2 ^m	13 ^s 13 ^s	0 ^s 26 ^s	41 ^h 4 ^h	2 ^m 8 ^m
30	63 ^s 80 ^s	0 ^s 19 ^s	51 ^h 4 ^h	3 ^m 3 ^m	49 ^s 68 ^s	0 ^s 23 ^s	19 ^h 6 ^h	3 ^m 3 ^m	13 ^s 39 ^s	0 ^s 21 ^s	44 ^h 2 ^h	3 ^m 0 ^m
July 10	63 ^s 99 ^s	0 ^s 14 ^s	54 ^h 7 ^h	3 ^m 5 ^m	49 ^s 91 ^s	0 ^s 18 ^s	22 ^h 9 ^h	3 ^m 3 ^m	13 ^s 60 ^s	0 ^s 18 ^s	47 ^h 2 ^h	3 ^m 0 ^m
20	64 ^s 13 ^s	0 ^s 08 ^s	58 ^h 2 ^h	3 ^m 3 ^m	50 ^s 09 ^s	0 ^s 13 ^s	26 ^h 2 ^h	3 ^m 3 ^m	13 ^s 78 ^s	0 ^s 12 ^s	50 ^h 2 ^h	2 ^m 9 ^m
30	64 ^s 21 ^s	0 ^s 03 ^s	61 ^h 5 ^h	3 ^m 3 ^m	50 ^s 22 ^s	0 ^s 07 ^s	29 ^h 5 ^h	3 ^m 2 ^m	13 ^s 90 ^s	0 ^s 09 ^s	53 ^h 1 ^h	2 ^m 8 ^m
Aug. 9	64 ^s 24 ^s	0 ^s 04 ^s	64 ^h 8 ^h	3 ^m 1 ^m	50 ^s 29 ^s	0 ^s 03 ^s	32 ^h 7 ^h	3 ^m 1 ^m	13 ^s 99 ^s	0 ^s 03 ^s	55 ^h 9 ^h	2 ^m 7 ^m
19	64 ^s 20 ^s	0 ^s 08 ^s	67 ^h 9 ^h	2 ^m 8 ^m	50 ^s 32 ^s	0 ^s 03 ^s	35 ^h 8 ^h	2 ^m 8 ^m	14 ^s 02 ^s	0 ^s 02 ^s	58 ^h 6 ^h	2 ^m 5 ^m
29	64 ^s 12 ^s	0 ^s 13 ^s	70 ^h 7 ^h	2 ^m 6 ^m	50 ^s 29 ^s	0 ^s 07 ^s	38 ^h 6 ^h	2 ^m 6 ^m	14 ^s 00 ^s	0 ^s 05 ^s	61 ^h 1 ^h	2 ^m 1 ^m
Sept. 8	63 ^s 99 ^s	0 ^s 18 ^s	73 ^h 3 ^h	2 ^m 2 ^m	50 ^s 22 ^s	0 ^s 12 ^s	41 ^h 2 ^h	2 ^m 3 ^m	13 ^s 95 ^s	0 ^s 10 ^s	63 ^h 2 ^h	1 ^m 9 ^m
18	63 ^s 81 ^s	0 ^s 21 ^s	75 ^h 5 ^h	1 ^m 9 ^m	50 ^s 10 ^s	0 ^s 14 ^s	43 ^h 5 ^h	1 ^m 9 ^m	13 ^s 85 ^s	0 ^s 13 ^s	65 ^h 1 ^h	1 ^m 6 ^m
28	63 ^s 60 ^s	0 ^s 23 ^s	77 ^h 4 ^h	1 ^m 3 ^m	49 ^s 96 ^s	0 ^s 18 ^s	45 ^h 4 ^h	1 ^m 5 ^m	13 ^s 72 ^s	0 ^s 16 ^s	66 ^h 7 ^h	1 ^m 2 ^m
Oct. 8	63 ^s 37 ^s	0 ^s 25 ^s	78 ^h 7 ^h	1 ^m 0 ^m	49 ^s 78 ^s	0 ^s 20 ^s	46 ^h 9 ^h	1 ^m 1 ^m	13 ^s 56 ^s	0 ^s 17 ^s	67 ^h 9 ^h	0 ^m 8 ^m
18	63 ^s 12 ^s	0 ^s 26 ^s	79 ^h 7 ^h	0 ^m 4 ^m	49 ^s 58 ^s	0 ^s 20 ^s	48 ^h 0 ^h	0 ^m 7 ^m	13 ^s 39 ^s	0 ^s 18 ^s	68 ^h 7 ^h	0 ^m 5 ^m
28	62 ^s 86 ^s	0 ^s 26 ^s	80 ^h 1 ^h	0 ^m 0 ^m	49 ^s 38 ^s	0 ^s 20 ^s	48 ^h 7 ^h	0 ^m 2 ^m	13 ^s 21 ^s	0 ^s 18 ^s	69 ^h 2 ^h	0 ^m 0 ^m
Nov. 7	62 ^s 60 ^s	0 ^s 24 ^s	80 ^h 1 ^h	0 ^m 6 ^m	49 ^s 18 ^s	0 ^s 20 ^s	48 ^h 9 ^h	0 ^m 3 ^m	13 ^s 03 ^s	0 ^s 18 ^s	69 ^h 2 ^h	0 ^m 0 ^m
17	62 ^s 36 ^s	0 ^s 22 ^s	79 ^h 5 ^h	1 ^m 0 ^m	48 ^s 98 ^s	0 ^s 18 ^s	48 ^h 6 ^h	0 ^m 7 ^m	12 ^s 85 ^s	0 ^s 18 ^s		
27	62 ^s 14 ^s	0 ^s 19 ^s	78 ^h 5 ^h	1 ^m 5 ^m	48 ^s 80 ^s	0 ^s 16 ^s	47 ^h 9 ^h	1 ^m 2 ^m	12 ^s 69 ^s	0 ^s 15 ^s		
Dec. 7	61 ^s 95 ^s	0 ^s 15 ^s	77 ^h 0 ^h	2 ^m 0 ^m	48 ^s 64 ^s	0 ^s 13 ^s	46 ^h 7 ^h	1 ^m 5 ^m	12 ^s 55 ^s	0 ^s 11 ^s		
17	61 ^s 80 ^s	0 ^s 11 ^s	75 ^h 0 ^h	2 ^m 3 ^m	48 ^s 51 ^s	0 ^s 09 ^s	45 ^h 2 ^h	1 ^m 9 ^m	12 ^s 43 ^s	0 ^s 07 ^s		
27	61 ^s 69 ^s	0 ^s 07 ^s	72 ^h 7 ^h	2 ^m 6 ^m	48 ^s 42 ^s	0 ^s 06 ^s	43 ^h 3 ^h	2 ^m 3 ^m	12 ^s 35 ^s	0 ^s 03 ^s		
37	61 ^s 62 ^s	0 ^s 07 ^s	70 ^h 1 ^h	2 ^m 6 ^m	48 ^s 36 ^s	0 ^s 06 ^s	41 ^h 0 ^h	2 ^m 3 ^m	12 ^s 27 ^s	0 ^s 03 ^s		

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	α CEPHEI.		β AQUARI.		β CEPHEI.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. North.
	^h 21	^m 14	^h 21	^m 23	^h 21	^m 26
	^s 14	[°] 61	^s 23	[°] 6	^s 26	[°] 69
	['] 54	['] 54	['] 15	['] 15	['] 51	['] 51
Jan. 1	44 ^s 13	57 ^h 5	10 ^s 80	63 ^h 8	31 ^s 31	60 ^h 5
11	43 ^s 93	54 ^h 9	10 ^s 79	64 ^h 3	30 ^s 98	58 ^h 0
21	43 ^s 81	51 ^h 9	10 ^s 82	64 ^h 7	30 ^s 73	55 ^h 1
31	43 ^s 76	48 ^h 8	10 ^s 87	65 ^h 1	30 ^s 59	52 ^h 0
	* 0'03	3'5	0'09	0'2	0'02	3'1
Feb. 10	43 ^s 79	45 ^h 3	10 ^s 96	65 ^h 3	30 ^s 57	48 ^h 9
20	43 ^s 92	42 ^h 3	* 11 ^s 09	65 ^h 4	* 30 ^s 67	45 ^h 3
Mar. 2	44 ^s 12	39 ^h 4	11 ^s 24	65 ^h 3	30 ^s 88	42 ^h 3
12	44 ^s 40	36 ^h 9	11 ^s 42	64 ^h 9	31 ^s 21	39 ^h 6
	0'35	2'1	0'21	0'6	0'42	2'3
22	44 ^s 75	34 ^h 8	11 ^s 63	64 ^h 3	31 ^s 63	37 ^h 3
Apr. 1	45 ^s 16	33 ^h 3	11 ^s 86	63 ^h 4	32 ^s 14	35 ^h 4
11	45 ^s 61	32 ^h 3	12 ^s 12	62 ^h 4	32 ^s 73	34 ^h 2
21	46 ^s 10	31 ^h 9	12 ^s 40	61 ^h 1	33 ^s 37	33 ^h 5
	0'52	0'2	0'30	1'5	0'67	0'1
May 1	46 ^s 62	32 ^h 1	12 ^s 70	59 ^h 6	34 ^s 04	33 ^h 4
11	47 ^s 15	32 ^h 9	13 ^s 01	57 ^h 9	34 ^s 73	34 ^h 0
21	47 ^s 68	34 ^h 4	13 ^s 33	56 ^h 2	35 ^s 41	35 ^h 1
31	48 ^s 18	36 ^h 3	13 ^s 65	54 ^h 4	36 ^s 07	36 ^h 8
	0'46	2'5	0'31	1'8	0'61	2'2
June 10	48 ^s 64	38 ^h 8	13 ^s 96	52 ^h 6	36 ^s 68	39 ^h 0
20	49 ^s 06	41 ^h 6	14 ^s 25	50 ^h 8	37 ^s 23	41 ^h 7
30	49 ^s 42	44 ^h 8	14 ^s 51	49 ^h 1	37 ^s 70	44 ^h 7
July 10	49 ^s 72	48 ^h 3	14 ^s 75	47 ^h 5	38 ^s 09	48 ^h 1
	0'22	3'6	0'21	1'4	0'29	3'6
20	49 ^s 94	51 ^h 9	14 ^s 96	46 ^h 1	38 ^s 38	51 ^h 7
30	50 ^s 08	55 ^h 5	15 ^s 12	44 ^h 8	38 ^s 57	55 ^h 5
Aug. 9	50 ^s 14	59 ^h 2	15 ^s 24	43 ^h 8	38 ^s 65	59 ^h 4
19	50 ^s 13	62 ^h 9	15 ^s 31	43 ^h 0	38 ^s 63	63 ^h 0
	0'10	3'5	0'03	0'6	0'13	3'6
29	50 ^s 03	66 ^h 4	15 ^s 34	42 ^h 4	38 ^s 50	66 ^h 6
Sept. 8	49 ^s 87	69 ^h 6	15 ^s 32	41 ^h 9	38 ^s 27	70 ^h 1
18	49 ^s 63	72 ^h 6	15 ^s 27	41 ^h 7	37 ^s 96	73 ^h 3
28	49 ^s 34	75 ^h 2	15 ^s 19	41 ^h 6	37 ^s 57	76 ^h 2
	0'34	2'3	0'11	0'1	0'47	2'6
Oct. 8	49 ^s 00	77 ^h 5	15 ^s 08	41 ^h 7	37 ^s 10	78 ^h 8
18	48 ^s 62	79 ^h 2	14 ^s 95	41 ^h 9	36 ^s 58	80 ^h 8
28	48 ^s 22	80 ^h 5	14 ^s 82	42 ^h 3	36 ^s 02	82 ^h 4
Nov. 7	47 ^s 81	81 ^h 2	14 ^s 68	42 ^h 7	35 ^s 43	83 ^h 4
	0'42	0'2	0'13	0'4	0'59	0'5
17	47 ^s 39	81 ^h 4	14 ^s 55	43 ^h 1	34 ^s 84	83 ^h 9
27	46 ^s 99	81 ^h 0	14 ^s 43	43 ^h 6	34 ^s 25	83 ^h 8
Dec. 7	46 ^s 62	80 ^h 0	14 ^s 33	44 ^h 2	33 ^s 69	83 ^h 1
17	46 ^s 28	78 ^h 5	14 ^s 25	44 ^h 8	33 ^s 18	81 ^h 8
	0'29	2'0	0'05	0'5	0'46	1'8
27	45 ^s 99	76 ^h 5	14 ^s 20	45 ^h 3	32 ^s 72	80 ^h 0
37	45 ^s 77	74 ^h 0	14 ^s 17	45 ^h 9	32 ^s 34	77 ^h 7

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	ε Pegasi.		α Aquarii.		α Gruis.	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. South.
	^h 21 ^m 36	^o 9 ⁱ 8	^h 21 ^m 57	^o 1 ⁱ 4	^h 21 ^m 58	^o 47 ⁱ 43
Jan. 1	22 ^s 29 ^s	58 ^h 5 ^h	36 ^s 76 ^s	82 ^h 1 ^h	10 ^s 73 ^s	50 ^h 8 ^h
11	22 ^s 26 ^s 0 ^s 03	57 ^h 3 ^h 1 ^h 2	36 ^s 72 ^s 0 ^s 04	82 ^h 8 ^h 0 ^h 7	10 ^s 65 ^s 0 ^s 08	49 ^h 3 ^h 1 ^h 5
21	22 ^s 26 ^s 0 ^s 00	56 ^h 1 ^h 1 ^h 2	36 ^s 72 ^s 0 ^s 00	83 ^h 4 ^h 0 ^h 6	10 ^s 62 ^s 0 ^s 03	47 ^h 4 ^h 1 ^h 9
31	22 ^s 30 ^s 0 ^s 04	54 ^h 9 ^h 1 ^h 2	36 ^s 74 ^s 0 ^s 02	84 ^h 0 ^h 0 ^h 6	10 ^s 63 ^s 0 ^s 01	45 ^h 4 ^h 2 ^h 0
	0 ^s 06	1 ^h 1	0 ^s 04	0 ^h 5	0 ^s 06	2 ^h 3
Feb. 10	22 ^s 36 ^s	53 ^h 8 ^h	36 ^s 78 ^s	84 ^h 5 ^h	10 ^s 69 ^s	43 ^h 1 ^h
20	22 ^s 47 ^s 0 ^s 11	52 ^h 8 ^h 1 ^h 0	36 ^s 87 ^s 0 ^s 09	84 ^h 9 ^h 0 ^h 4	10 ^s 80 ^s 0 ^s 11	40 ^h 4 ^h 2 ^h 7
Mar. 2	22 ^s 60 ^s 0 ^s 13	52 ^h 0 ^h 8 ^h	36 ^s 99 ^s 0 ^s 12	85 ^h 0 ^h 0 ^h 1	10 ^s 96 ^s 0 ^s 16	37 ^h 8 ^h 2 ^h 6
12	22 ^s 77 ^s 0 ^s 17	51 ^h 5 ^h 0 ^h 5	37 ^s 13 ^s 0 ^s 14	84 ^h 9 ^h 0 ^h 1	11 ^s 16 ^s 0 ^s 20	35 ^h 2 ^h 2 ^h 6
	0 ^s 19	0 ^h 2	0 ^s 18	0 ^h 4	0 ^s 24	2 ^h 6
Apr. 22	22 ^s 96 ^s 0 ^s 22	51 ^h 3 ^h 0 ^h 2	37 ^s 31 ^s 0 ^s 20	84 ^h 5 ^h 0 ^h 7	11 ^s 40 ^s 0 ^s 29	32 ^h 6 ^h 2 ^h 6
1	23 ^s 18 ^s 0 ^s 25	51 ^h 5 ^h 0 ^h 6	37 ^s 51 ^s 0 ^s 24	83 ^h 8 ^h 0 ^h 9	11 ^s 69 ^s 0 ^s 32	30 ^h 0 ^h 2 ^h 5
11	23 ^s 43 ^s 0 ^s 28	52 ^h 1 ^h 0 ^h 8	37 ^s 75 ^s 0 ^s 26	82 ^h 9 ^h 1 ^h 2	12 ^s 01 ^s 0 ^s 36	27 ^h 5 ^h 2 ^h 4
21	23 ^s 71 ^s 0 ^s 29	52 ^h 9 ^h 1 ^h 3	38 ^s 01 ^s 0 ^s 28	81 ^h 7 ^h 1 ^h 4	12 ^s 37 ^s 0 ^s 39	25 ^h 1 ^h 2 ^h 2
May 1	24 ^s 00 ^s 0 ^s 31	54 ^h 2 ^h 1 ^h 5	38 ^s 29 ^s 0 ^s 31	80 ^h 3 ^h 1 ^h 7	12 ^s 76 ^s 0 ^s 41	22 ^h 9 ^h 2 ^h 0
11	24 ^s 31 ^s 0 ^s 31	55 ^h 7 ^h 1 ^h 7	38 ^s 60 ^s 0 ^s 32	78 ^h 6 ^h 1 ^h 8	13 ^s 17 ^s 0 ^s 43	20 ^h 9 ^h 1 ^h 6
21	24 ^s 62 ^s 0 ^s 32	57 ^h 4 ^h 2 ^h 0	38 ^s 92 ^s 0 ^s 31	76 ^h 8 ^h 1 ^h 9	13 ^s 60 ^s 0 ^s 43	19 ^h 3 ^h 1 ^h 4
31	24 ^s 94 ^s 0 ^s 31	59 ^h 4 ^h 2 ^h 2	39 ^s 23 ^s 0 ^s 32	74 ^h 9 ^h 2 ^h 0	14 ^s 03 ^s 0 ^s 43	17 ^h 9 ^h 1 ^h 0
June 10	25 ^s 25 ^s 0 ^s 29	61 ^h 6 ^h 2 ^h 2	39 ^s 55 ^s 0 ^s 30	72 ^h 9 ^h 2 ^h 0	14 ^s 46 ^s 0 ^s 42	16 ^h 9 ^h 0 ^h 7
20	25 ^s 54 ^s 0 ^s 27	63 ^h 8 ^h 2 ^h 3	39 ^s 85 ^s 0 ^s 28	70 ^h 9 ^h 2 ^h 0	14 ^s 88 ^s 0 ^s 39	16 ^h 2 ^h 0 ^h 2
30	25 ^s 81 ^s 0 ^s 24	66 ^h 1 ^h 2 ^h 3	40 ^s 13 ^s 0 ^s 26	68 ^h 9 ^h 1 ^h 7	15 ^s 27 ^s 0 ^s 31	16 ^h 0 ^h 0 ^h 6
July 10	26 ^s 05 ^s 0 ^s 20	68 ^h 4 ^h 2 ^h 1	40 ^s 39 ^s 0 ^s 23	67 ^h 0 ^h 1 ^h 7	15 ^s 63 ^s 0 ^s 26	16 ^h 1 ^h 0 ^h 8
20	26 ^s 25 ^s 0 ^s 17	70 ^h 5 ^h 2 ^h 1	40 ^s 62 ^s 0 ^s 19	65 ^h 3 ^h 1 ^h 6	15 ^s 94 ^s 0 ^s 20	16 ^h 7 ^h 1 ^h 2
30	26 ^s 42 ^s 0 ^s 12	72 ^h 6 ^h 1 ^h 9	40 ^s 81 ^s 0 ^s 14	63 ^h 7 ^h 1 ^h 4	16 ^s 20 ^s 0 ^s 15	17 ^h 5 ^h 1 ^h 5
Aug. 9	26 ^s 54 ^s 0 ^s 08	74 ^h 5 ^h 1 ^h 5	40 ^s 95 ^s 0 ^s 11	62 ^h 3 ^h 1 ^h 2	16 ^s 40 ^s 0 ^s 07	18 ^h 7 ^h 1 ^h 6
19	26 ^s 62 ^s 0 ^s 03	76 ^h 2 ^h 1 ^h 5	41 ^s 06 ^s 0 ^s 06	61 ^h 1 ^h 0 ^h 0	16 ^s 55 ^s 0 ^s 01	20 ^h 2 ^h 1 ^h 8
29	26 ^s 65 ^s 0 ^s 00	77 ^h 7 ^h 1 ^h 3	41 ^s 12 ^s 0 ^s 02	60 ^h 1 ^h 0 ^h 7	16 ^s 62 ^s 0 ^s 05	21 ^h 8 ^h 1 ^h 9
Sept. 8	26 ^s 65 ^s 0 ^s 05	79 ^h 0 ^h 1 ^h 1	41 ^s 14 ^s 0 ^s 03	59 ^h 4 ^h 0 ^h 5	16 ^s 63 ^s 0 ^s 10	23 ^h 6 ^h 1 ^h 7
18	26 ^s 60 ^s 0 ^s 08	80 ^h 1 ^h 0 ^h 8	41 ^s 11 ^s 0 ^s 05	58 ^h 9 ^h 0 ^h 4	16 ^s 58 ^s 0 ^s 15	25 ^h 5 ^h 1 ^h 8
28	26 ^s 52 ^s 0 ^s 10	80 ^h 9 ^h 0 ^h 5	41 ^s 06 ^s 0 ^s 09	58 ^h 5 ^h 0 ^h 1	16 ^s 48 ^s 0 ^s 18	27 ^h 3 ^h 1 ^h 7
Oct. 8	26 ^s 42 ^s 0 ^s 12	81 ^h 4 ^h 0 ^h 4	40 ^s 97 ^s 0 ^s 10	58 ^h 4 ^h 0 ^h 0	16 ^s 33 ^s 0 ^s 21	29 ^h 0 ^h 1 ^h 5
18	26 ^s 30 ^s 0 ^s 14	81 ^h 8 ^h 0 ^h 0	40 ^s 87 ^s 0 ^s 12	58 ^h 4 ^h 0 ^h 2	16 ^s 15 ^s 0 ^s 23	30 ^h 5 ^h 1 ^h 3
28	26 ^s 16 ^s 0 ^s 13	81 ^h 7 ^h 0 ^h 4	40 ^s 75 ^s 0 ^s 13	58 ^h 6 ^h 0 ^h 4	15 ^s 94 ^s 0 ^s 23	31 ^h 8 ^h 0 ^h 9
Nov. 7	26 ^s 02 ^s 0 ^s 13	81 ^h 7 ^h 0 ^h 4	40 ^s 62 ^s 0 ^s 13	59 ^h 0 ^h 0 ^h 4	15 ^s 71 ^s 0 ^s 23	32 ^h 7 ^h 0 ^h 8
17	25 ^s 89 ^s 0 ^s 13	81 ^h 3 ^h 0 ^h 6	40 ^s 49 ^s 0 ^s 12	59 ^h 4 ^h 0 ^h 5	15 ^s 48 ^s 0 ^s 22	
27	25 ^s 76 ^s 0 ^s 11	80 ^h 7 ^h 0 ^h 7	40 ^s 37 ^s 0 ^s 11	59 ^h 9 ^h 0 ^h 7	15 ^s 26 ^s 0 ^s 18	
Dec. 7	25 ^s 65 ^s 0 ^s 09	80 ^h 0 ^h 1 ^h 0	40 ^s 26 ^s 0 ^s 09	60 ^h 6 ^h 0 ^h 6	15 ^s 06 ^s 0 ^s 11	
17	25 ^s 56 ^s 0 ^s 07	79 ^h 0 ^h 1 ^h 0	40 ^s 17 ^s 0 ^s 07	61 ^h 2 ^h 0 ^h 8	14 ^s 88 ^s 0 ^s 07	
27	25 ^s 49 ^s 0 ^s 04	78 ^h 0 ^h 1 ^h 2	40 ^s 10 ^s 0 ^s 05	62 ^h 0 ^h 0 ^h 7	14 ^s 74 ^s 0 ^s 07	
37	25 ^s 45 ^s	76 ^h 8 ^h	40 ^s 05 ^s	62 ^h 7 ^h	14 ^s 64 ^s	

APPARENT PLACES OF THE PRINCIPAL FIXED STARS,
FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	ζ Pegasi.		α PISCIS AUSTRALIS. (Fomalhaut)		α PEGASI. (Markab)	
	R. A.	Dec. North.	R. A.	Dec. South.	R. A.	Dec. North.
	^h ^m 22 33	^o ⁱ 10 0	^h ^m 22 48	^o ⁱ 30 27	^h ^m 22 56	^o ⁱ 14 21
Jan. 1	31 ^s 86 ^s 0 ^s 06	15 ^s 7 ^s 1 ^s 0	51 ^s 18 ^s 0 ^s 09	54 ^s 0 ^s 0 ^s 5	50 ^s 68 ^s 0 ^s 08	11 ^s 8 ^s 1 ^s 1
11	31 ^s 80 ^s 0 ^s 04	14 ^s 7 ^s 1 ^s 1	51 ^s 09 ^s 0 ^s 06	53 ^s 5 ^s 0 ^s 8	50 ^s 60 ^s 0 ^s 07	10 ^s 7 ^s 1 ^s 2
21	31 ^s 76 ^s 0 ^s 02	13 ^s 6 ^s 1 ^s 1	51 ^s 03 ^s 0 ^s 03	52 ^s 7 ^s 1 ^s 0	50 ^s 53 ^s 0 ^s 04	9 ^s 5 ^s 1 ^s 2
31	31 ^s 74 ^s 0 ^s 01	12 ^s 5 ^s 1 ^s 0	51 ^s 00 ^s 0 ^s 00	51 ^s 7 ^s 1 ^s 3	50 ^s 49 ^s 0 ^s 02	8 ^s 3 ^s 1 ^s 2
Feb. 10	31 ^s 75 ^s 0 ^s 03	11 ^s 5 ^s 1 ^s 0	51 ^s 00 ^s 0 ^s 02	50 ^s 4 ^s 1 ^s 5	50 ^s 47 ^s 0 ^s 02	7 ^s 1 ^s 1 ^s 1
20	31 ^s 78 ^s 0 ^s 08	10 ^s 5 ^s 0 ^s 8	51 ^s 02 ^s 0 ^s 07	48 ^s 9 ^s 1 ^s 7	50 ^s 49 ^s 0 ^s 04	6 ^s 0 ^s 1 ^s 0
Mar. 2	31 ^s 86 ^s 0 ^s 11	9 ^s 7 ^s 0 ^s 5	51 ^s 09 ^s 0 ^s 11	47 ^s 2 ^s 2 ^s 0	50 ^s 53 ^s 0 ^s 09	5 ^s 0 ^s 0 ^s 8
12	31 ^s 97 ^s 0 ^s 14	9 ^s 2 ^s 0 ^s 2	51 ^s 20 ^s 0 ^s 14	45 ^s 2 ^s 2 ^s 2	50 ^s 62 ^s 0 ^s 12	4 ^s 2 ^s 0 ^s 5
22	32 ^s 11 ^s 0 ^s 18	9 ^s 0 ^s 0 ^s 1	51 ^s 34 ^s 0 ^s 18	43 ^s 0 ^s 2 ^s 2	50 ^s 74 ^s 0 ^s 16	3 ^s 7 ^s 0 ^s 2
Apr. 1	32 ^s 29 ^s 0 ^s 21	9 ^s 1 ^s 0 ^s 4	51 ^s 52 ^s 0 ^s 22	40 ^s 8 ^s 2 ^s 3	50 ^s 90 ^s 0 ^s 19	3 ^s 5 ^s 0 ^s 2
11	32 ^s 50 ^s 0 ^s 25	9 ^s 5 ^s 0 ^s 7	51 ^s 74 ^s 0 ^s 25	38 ^s 5 ^s 2 ^s 3	51 ^s 09 ^s 0 ^s 24	3 ^s 7 ^s 0 ^s 5
21	32 ^s 75 ^s 0 ^s 27	10 ^s 2 ^s 1 ^s 1	51 ^s 99 ^s 0 ^s 29	36 ^s 2 ^s 2 ^s 4	51 ^s 33 ^s 0 ^s 26	4 ^s 2 ^s 0 ^s 8
May 1	33 ^s 02 ^s 0 ^s 29	11 ^s 3 ^s 1 ^s 4	52 ^s 28 ^s 0 ^s 31	33 ^s 8 ^s 2 ^s 3	51 ^s 59 ^s 0 ^s 29	5 ^s 0 ^s 1 ^s 2
11	33 ^s 31 ^s 0 ^s 31	12 ^s 7 ^s 1 ^s 7	52 ^s 59 ^s 0 ^s 33	31 ^s 5 ^s 2 ^s 1	51 ^s 88 ^s 0 ^s 30	6 ^s 2 ^s 1 ^s 3
21	33 ^s 62 ^s 0 ^s 32	14 ^s 4 ^s 1 ^s 9	52 ^s 92 ^s 0 ^s 35	29 ^s 4 ^s 2 ^s 1	52 ^s 18 ^s 0 ^s 33	7 ^s 7 ^s 1 ^s 8
31	33 ^s 94 ^s 0 ^s 32	16 ^s 3 ^s 2 ^s 0	53 ^s 27 ^s 0 ^s 36	27 ^s 3 ^s 1 ^s 8	52 ^s 51 ^s 0 ^s 32	9 ^s 5 ^s 2 ^s 0
June 10	34 ^s 26 ^s 0 ^s 32	18 ^s 3 ^s 2 ^s 2	53 ^s 63 ^s 0 ^s 36	25 ^s 5 ^s 1 ^s 6	52 ^s 83 ^s 0 ^s 33	11 ^s 5 ^s 2 ^s 2
20	34 ^s 58 ^s 0 ^s 30	20 ^s 5 ^s 2 ^s 3	53 ^s 99 ^s 0 ^s 34	23 ^s 9 ^s 1 ^s 2	53 ^s 16 ^s 0 ^s 31	13 ^s 7 ^s 2 ^s 3
30	34 ^s 88 ^s 0 ^s 28	22 ^s 8 ^s 2 ^s 3	54 ^s 33 ^s 0 ^s 32	22 ^s 7 ^s 1 ^s 0	53 ^s 47 ^s 0 ^s 29	16 ^s 0 ^s 2 ^s 3
July 10	35 ^s 16 ^s 0 ^s 25	25 ^s 1 ^s 2 ^s 2	54 ^s 65 ^s 0 ^s 30	21 ^s 7 ^s 0 ^s 6	53 ^s 76 ^s 0 ^s 27	18 ^s 3 ^s 2 ^s 4
20	35 ^s 41 ^s 0 ^s 21	27 ^s 3 ^s 2 ^s 2	54 ^s 95 ^s 0 ^s 26	21 ^s 1 ^s 0 ^s 3	54 ^s 03 ^s 0 ^s 23	20 ^s 7 ^s 2 ^s 3
30	35 ^s 62 ^s 0 ^s 18	29 ^s 5 ^s 2 ^s 0	55 ^s 21 ^s 0 ^s 22	20 ^s 8 ^s 0 ^s 1	54 ^s 26 ^s 0 ^s 20	23 ^s 0 ^s 2 ^s 3
Aug. 9	35 ^s 80 ^s 0 ^s 13	31 ^s 5 ^s 1 ^s 8	55 ^s 43 ^s 0 ^s 17	20 ^s 9 ^s 0 ^s 4	54 ^s 46 ^s 0 ^s 15	25 ^s 3 ^s 2 ^s 0
19	35 ^s 93 ^s 0 ^s 09	33 ^s 3 ^s 1 ^s 7	55 ^s 60 ^s 0 ^s 13	21 ^s 3 ^s 0 ^s 6	54 ^s 61 ^s 0 ^s 12	27 ^s 3 ^s 1 ^s 9
29	36 ^s 02 ^s 0 ^s 05	35 ^s 0 ^s 1 ^s 4	55 ^s 73 ^s 0 ^s 07	21 ^s 9 ^s 1 ^s 0	54 ^s 73 ^s 0 ^s 07	29 ^s 2 ^s 1 ^s 7
Sept. 8	36 ^s 07 ^s 0 ^s 01	36 ^s 4 ^s 1 ^s 2	55 ^s 80 ^s 0 ^s 03	22 ^s 9 ^s 1 ^s 1	54 ^s 80 ^s 0 ^s 03	30 ^s 9 ^s 1 ^s 5
18	36 ^s 08 ^s 0 ^s 03	37 ^s 6 ^s 1 ^s 0	55 ^s 83 ^s 0 ^s 02	24 ^s 0 ^s 1 ^s 3	54 ^s 83 ^s 0 ^s 00	32 ^s 4 ^s 1 ^s 2
28	36 ^s 05 ^s 0 ^s 05	38 ^s 6 ^s 0 ^s 7	55 ^s 81 ^s 0 ^s 06	25 ^s 3 ^s 1 ^s 3	54 ^s 83 ^s 0 ^s 04	33 ^s 6 ^s 1 ^s 0
Oct. 8	36 ^s 00 ^s 0 ^s 09	39 ^s 3 ^s 0 ^s 4	55 ^s 75 ^s 0 ^s 09	26 ^s 6 ^s 1 ^s 3	54 ^s 79 ^s 0 ^s 07	34 ^s 6 ^s 0 ^s 7
18	35 ^s 91 ^s 0 ^s 10	39 ^s 7 ^s 0 ^s 3	55 ^s 66 ^s 0 ^s 12	27 ^s 9 ^s 1 ^s 3	54 ^s 72 ^s 0 ^s 08	35 ^s 3 ^s 0 ^s 5
28	35 ^s 81 ^s 0 ^s 11	40 ^s 0 ^s 0 ^s 0	55 ^s 54 ^s 0 ^s 14	29 ^s 2 ^s 1 ^s 2	54 ^s 64 ^s 0 ^s 11	35 ^s 8 ^s 0 ^s 2
Nov. 7	35 ^s 70 ^s 0 ^s 12	40 ^s 0 ^s 0 ^s 2	55 ^s 40 ^s 0 ^s 15	30 ^s 4 ^s 1 ^s 0	54 ^s 53 ^s 0 ^s 11	36 ^s 0 ^s 0 ^s 0
17	35 ^s 58 ^s 0 ^s 13	39 ^s 8 ^s 0 ^s 4	55 ^s 25 ^s 0 ^s 15	31 ^s 4 ^s 0 ^s 7	54 ^s 42 ^s 0 ^s 12	36 ^s 0 ^s 0 ^s 3
27	35 ^s 45 ^s 0 ^s 11	39 ^s 4 ^s 0 ^s 6	55 ^s 10 ^s 0 ^s 14	32 ^s 1 ^s 0 ^s 6	54 ^s 30 ^s 0 ^s 12	35 ^s 7 ^s 0 ^s 4
Dec. 7	35 ^s 34 ^s 0 ^s 09	38 ^s 8 ^s 0 ^s 9	54 ^s 96 ^s 0 ^s 12	32 ^s 7 ^s 0 ^s 0	54 ^s 18 ^s 0 ^s 11	35 ^s 3 ^s 0 ^s 7
17	35 ^s 23 ^s 0 ^s 08	38 ^s 0 ^s 1 ^s 0	54 ^s 82 ^s 0 ^s 10	32 ^s 9 ^s 0 ^s 4	54 ^s 07 ^s 0 ^s 09	34 ^s 6 ^s 0 ^s 9
27	35 ^s 14 ^s 0 ^s 06	37 ^s 1 ^s 1 ^s 0	54 ^s 70 ^s 0 ^s 08	32 ^s 9 ^s 0 ^s 4	53 ^s 96 ^s 0 ^s 09	33 ^s 7 ^s 1 ^s 1
37	35 ^s 06 ^s 0 ^s 08	36 ^s 1 ^s 1 ^s 0	54 ^s 60 ^s 0 ^s 06	32 ^s 5 ^s 0 ^s 4	53 ^s 87 ^s 0 ^s 09	32 ^s 6 ^s 1 ^s 1

APPARENT PLACES OF THE PRINCIPAL FIXED STARS, FOR THE UPPER TRANSIT AT GREENWICH.

Day of the Month.	♈ Piscium.		γ Cephei.	
	R. A.	Dec. North.	R. A.	Dec. North.
	23 ^h	4 ^o	23 ^h	76 ^o
	^m ^s ^s	[′] [″] [″]	^m ^s ^s	[′] [″] [″]
Jan. 1	31 46.57 0.09	45 58.0 0.8	32 49.81 0.81	44 64.0 0.9
11	46.48 0.07	57.2 0.8	49.00 0.74	63.1 1.5
21	46.41 0.07	56.4 0.7	48.26 0.65	61.6 2.0
31	46.34 0.04	55.7 0.7	47.61 0.53	59.6 2.5
Feb. 10	46.30 0.01	55.0 0.5	47.08 0.39	57.1 2.7
20	46.29 0.01	54.5 0.4	46.69 0.22	54.4 3.0
Mar. 2	46.30 0.05	54.1 0.2	46.47 0.05	51.4 3.1
12	46.35 0.09	53.9 0.1	46.42 0.15	48.3 3.3
22	46.44 0.12	54.0 0.3	46.57 0.32	45.0 2.8
Apr. 1	46.56 0.16	54.3 0.6	46.89 0.49	42.2 2.5
11	46.72 0.20	54.9 0.9	47.38 0.64	39.7 2.2
21	46.92 0.23	55.8 1.1	48.02 0.77	37.5 1.7
May 1	47.15 0.27	56.9 1.5	48.79 0.88	35.8 1.2
11	47.42 0.28	58.4 1.6	49.67 0.96	34.6 0.5
21	47.70 0.31	60.0 1.9	50.63 1.01	34.1 0.0
31	48.01 0.32	61.9 1.9	51.64 1.02	34.1 0.5
June 10	48.33 0.33	63.8 2.1	52.66 1.02	34.6 1.1
20	48.66 0.31	65.9 2.2	53.68 0.98	35.7 1.7
30	48.97 0.31	68.1 2.1	54.66 0.92	37.4 2.2
July 10	49.28 0.28	70.2 2.0	55.58 0.84	39.6 2.6
20	49.56 0.26	72.2 2.0	56.42 0.74	42.2 2.9
30	49.82 0.22	74.2 1.7	57.16 0.63	45.1 3.3
Aug. 9	50.04 0.19	75.9 1.6	57.79 0.50	48.4 3.6
19	50.23 0.15	77.5 1.4	58.29 0.36	52.0 3.7
29	50.38 0.11	78.9 1.1	58.65 0.22	55.7 3.8
Sept. 8	50.49 0.07	80.0 0.9	58.87 0.08	59.5 3.8
18	50.56 0.03	80.9 0.7	58.95 0.06	63.3 3.8
28	50.59 0.00	81.6 0.5	58.89 0.20	67.1 3.6
Oct. 8	50.59 0.03	82.1 0.2	58.69 0.33	70.7 3.4
18	50.56 0.06	82.3 0.0	58.36 0.45	74.1 3.1
28	50.50 0.07	82.3 0.1	57.91 0.56	77.2 2.8
Nov. 7	50.43 0.09	82.2 0.3	57.35 0.66	80.0 2.3
17	50.34 0.11	81.9 0.5	56.69 0.74	82.3 1.8
27	50.23 0.10	81.4 0.5	55.95 0.80	84.1 1.2
Dec. 7	50.13 0.11	80.9 0.7	55.15 0.83	85.3 0.1
17	50.02 0.10	80.2 0.7	54.32 0.83	85.9 0.1
27	49.92 0.09	79.5 0.8	53.49 0.84	85.9 0.1
37	31 49.83 0.09	45 78.7 0.8	32 52.65 0.84	44 85.2 0.1

TABLE,

Showing the *Correction* to be applied to the *preceding* Apparent Places of Fixed Polar Stars, for the terms of Nutation involving 2ϵ .

Arg.	α Urs. Min.		51 Cephei.		σ Octantis.		δ Urs. Min.		λ Urs. Min.		A
ϵ	R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	
$^{\circ}$ 0 180	$^{\circ}$ —211	$''$ +02	$^{\circ}$ +011	$''$ +09	$^{\circ}$ —114	$''$ —09	$^{\circ}$ —011	$''$ —09	$^{\circ}$ —168	$''$ —07	$^{\circ}$ 90
1 181	213	02	007	09	129	09	008	09	161	07	91
2 182	215	02	+002	09	144	09	006	09	154	08	92
3 183	217	02	—002	09	157	09	003	09	147	08	93
4 184	218	01	007	09	172	08	—000	09	139	08	94
5 185	219	01	011	09	186	08	+003	09	131	08	95
6 186	220	01	016	09	200	08	005	09	123	08	96
7 187	221	00	020	09	214	08	008	09	116	08	97
8 188	221	00	025	09	227	08	011	09	107	08	98
9 189	221	00	030	09	239	08	014	09	100	08	99
10 190	220	+00	034	09	252	08	017	09	091	08	100
11 191	220	—01	038	09	265	07	019	09	083	09	101
12 192	219	01	042	09	277	07	022	09	074	09	102
13 193	218	01	046	08	288	07	024	08	065	09	103
14 194	216	02	050	08	300	07	027	08	056	09	104
15 195	215	02	055	08	311	07	029	08	047	09	105
16 196	213	02	059	08	322	06	032	08	039	09	106
17 197	211	02	063	08	332	06	035	08	030	09	107
18 198	209	03	066	08	341	06	037	08	021	09	108
19 199	206	03	070	08	351	06	039	08	012	09	109
20 200	204	03	074	07	360	05	042	07	—004	09	110
21 201	200	03	078	07	369	05	044	07	+005	09	111
22 202	197	04	081	07	377	05	046	07	014	09	112
23 203	194	04	084	07	384	05	048	07	023	09	113
24 204	189	04	088	07	391	04	051	07	033	08	114
25 205	186	05	091	06	398	04	053	06	042	08	115
26 206	181	05	094	06	404	04	055	06	051	08	116
27 207	177	05	097	06	410	04	057	06	059	08	117
28 208	172	05	100	06	416	03	059	06	068	08	118
29 209	167	05	103	05	420	03	061	06	076	08	119
30 210	161	06	106	05	424	03	063	05	085	08	120
31 211	156	06	108	05	428	02	064	05	093	08	121
32 212	151	06	110	05	431	02	065	05	101	08	122
33 213	145	06	113	04	433	02	067	04	110	07	123
34 214	139	06	115	04	436	01	068	04	118	07	124
35 215	133	07	117	04	437	01	069	04	126	07	125
36 216	127	07	119	04	438	01	071	04	133	07	126
37 217	120	07	120	03	438	01	072	03	141	07	127
38 218	114	07	121	03	439	00	073	03	148	07	128
39 219	108	07	123	03	439	00	074	03	156	06	129
40 220	101	07	124	02	438	—00	075	02	163	06	130
41 221	093	07	125	02	436	+01	076	02	170	06	131
42 222	087	08	126	02	434	01	077	02	176	06	132
43 223	080	08	127	01	431	01	077	02	183	05	133
44 224	072	08	128	01	428	02	078	01	189	05	134
45 225	—065	—08	—128	+01	—424	+02	+078	—01	+195	—05	135

NOTE.—When the *Argument* is on the *right-hand* side of the Table, the sign of the correction must be changed.

TABLE,

Showing the *Correction* to be applied to the *preceding* Apparent Places of Five Polar Stars, for the terms of Nutation involving $2\odot$.

Arg.		α URS. MIN.		51 Cephei.		σ Octantis.		δ URS. MIN.		λ URS. MIN.		Arg.	
\odot		R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	R. A.	Dec.	\odot	
45	225	—065	—08	—128	+01	—424	+02	+078	—01	+195	—05	135	315
46	226	058	08	128	00	420	02	078	01	201	05	136	316
47	227	050	08	129	00	415	03	079	00	207	04	137	317
48	228	043	08	129	+00	410	03	079	00	212	04	138	318
49	229	035	08	129	—01	404	03	079	—00	216	04	139	319
50	230	027	08	128	01	398	03	079	+01	221	04	140	320
51	231	020	08	127	01	391	04	079	01	226	03	141	321
52	232	012	08	127	02	383	04	079	01	230	03	142	322
53	233	—004	08	126	02	376	04	078	02	233	03	143	323
54	234	+003	08	125	02	368	05	078	02	237	02	144	324
55	235	011	08	124	02	359	05	077	02	240	02	145	325
56	236	019	08	123	03	350	05	076	03	243	02	146	326
57	237	027	08	121	03	341	05	075	03	246	02	147	327
58	238	035	08	120	03	331	06	075	03	249	01	148	328
59	239	042	08	118	04	320	06	074	03	251	01	149	329
60	240	049	08	116	04	310	06	073	04	253	01	150	330
61	241	057	08	115	04	300	06	072	04	254	00	151	331
62	242	064	08	112	04	288	07	071	04	256	00	152	332
63	243	071	08	110	05	276	07	069	05	257	—00	153	333
64	244	079	08	108	05	264	07	068	05	257	+01	154	334
65	245	086	08	105	05	252	07	067	05	257	01	155	335
66	246	093	07	102	06	239	07	065	05	257	01	156	336
67	247	100	07	100	06	226	07	064	06	257	02	157	337
68	248	107	07	097	06	213	08	062	06	256	02	158	338
69	249	114	07	094	06	199	08	060	06	255	02	159	339
70	250	120	07	090	06	186	08	058	06	254	02	160	340
71	251	126	07	088	07	172	08	057	06	252	03	161	341
72	252	133	07	084	07	157	08	055	07	251	03	162	342
73	253	139	06	081	07	142	08	053	07	248	03	163	343
74	254	145	06	077	07	128	08	051	07	245	04	164	344
75	255	151	06	074	07	112	09	049	07	243	04	165	345
76	256	156	06	070	08	098	09	047	08	240	04	166	346
77	257	162	06	066	08	084	09	044	08	236	04	167	347
78	258	167	05	062	08	069	09	042	08	232	05	168	348
79	259	172	05	058	08	053	09	039	08	229	05	169	349
80	260	176	05	054	08	038	09	037	08	225	05	170	350
81	261	181	05	050	08	023	09	034	08	220	05	171	351
82	262	185	04	045	08	—007	09	03		215	06	172	352
83	263	189	04	042	09	+008	09			210	06	173	353
84	264	192	04	038	09	024	09			205	06	174	354
85	265	197	04	033	09	038	09			q	06	175	
86	266	200	03	029	09	054	09				06		
87	267	203	03	024	09	069	09				06		
88	268	205	03	020	09	084	09				06		
89	269	209	03	015	09	099	09				06		
90	270	+211	—02	—011	—09	+114	+09				+01		

NOTE.—When the *Argument* is on the *right-hand* \odot correction must be chan

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s De in 1 ho of Lon	
1841.			^h ^m ^s	^s	^s	[°] ['] ["]		
Jan. 1	♂ Piscium *	5	0 40 26·95			N. 6 43		
	ε Piscium *	4	0 54 42·65			7 2		
	Moon I. U.	8·9	1 10 37·64	129·53	66·92	12 36 3·9	+873	
	Moon I. L.	- -	1 37 5·39	135·25	68·43	15 27 14·9	835	
	η Piscium -	4	1 22 59·97			14 31		
	β Arietis -	3	1 45 53·10			N.20 2		
2	η Piscium -	4	1 22 59·96			N.14 31		
	β Arietis -	3	1 45 53·09			20 2		
	Moon I. U.	9·9	2 4 46·78	141·78	70·11	18 9 10·0	+780	
	Moon I. L.	- -	2 33 50·62	148·95	71·90	20 38 21·4	707	
	ν Arietis -	5.6	2 29 48·91			21 16		
	π Arietis -	5	2 40 27·21			N.16 48		
3	ν Arietis -	5.6	2 29 48·90			N.21 16		
	π Arietis -	5	2 40 27·20			16 48		
	Moon I. U.	10·9	3 4 22·85	156·45	73·74	22 50 55·9	+614	
	Moon I. L.	- -	3 36 24·68	163·80	75·48	24 42 41·2	499	
	η Tauri -	3	3 38 4·38			23 37		
	Δ' Tauri -	5	3 55 19·95			N.21 39		
4	η Tauri -	3	3 38 4·37			N.23 37		
	Δ' Tauri -	5	3 55 19·94			21 39		
	Moon I. U.	12·0	4 9 51·01	170·41	77·01	26 9 21·7	+363	
	Moon I. L.	- -	4 44 28·96	175·61	78·18	27 6 59·0	209	
	τ Tauri -	5	4 32 44·47			22 39		
	ι Tauri -	4.5	4 53 37·85			N.21 21		
5	τ Tauri -	5	4 32 44·47			N.22 39		
	ι Tauri -	4.5	4 53 37·85			21 21		
	Moon I. U.	13·0	5 19 57·70	178·78	78·87	27 32 22·5	+ 42	
	Moon I. L.	- -	5 55 50·16	179·52	79·01	27 23 36·4	-130	
	C Tauri -	4.5	5 43 22·47			27 34		
	κ Aurigæ -	4	6 5 17·27			N.29 33		
6	C Tauri -	4.5	5 43 22·47			N.27 34		
	κ Aurigæ -	4	6 5 17·27			29 33		
	Moon I. U.	14·1	6 31 36·42	177·76	78·57	26 40 22·0	-300	
	ξ Geminor.	4	6 54 42·95			20 48		
	ι Geminor.	4	7 15 53·28			N.28 6		
7	ξ Geminor.	4	6 54 42·96			N.20 48		
	ι Geminor.	4	7 15 53·29			28 6		
	Moon I. L.	- -	7 6 47·77	173·79	77·63	25 23 59·2	-460	
	Moon II. U.	15·1	7 43 33·33	167·90	76·31	23 37 20·6	-602	
	λ Cancrī -	6	8 11 6·40			24 31		
	η Cancrī -	6	8 23 32·67			N.20 59		
8	λ Cancrī -	6	8 11 6·41			N.24 31		
	η Cancrī -	6	8 23 32·68			N.20 59		

Date.	Name.	Mag- nitude.	At Greenwich Transit.				
			Apparent Right Ascension in Time.	Var. of ☉'s R. A. in 1 hour of Long.	Sidereal Time of ☉'s Sem. pas. mer.	Declination.	Var. of ☉'s Dec. in 1 hour of Long.
1841.			^h ^m ^s	^s	^s	[°] ['] ["]	["]
Jan. 8	Moon II. L.	- -	8 16 28.73	161.23	74.72	N. 21 24 22.6	-723.1
	Moon II. U.	16.1	8 48 1.43	154.22	73.05	18 49 39.9	820.0
	q Cancri - -	6	9 10 7.99			18 23	
	ξ Leonis - *	5	9 23 24.35			N. 12 0	
9	q Cancri - -	6	9 10 8.01			N. 18 23	
	ξ Leonis - *	5	9 23 24.38			12 0	
	Moon II. L.	- -	9 18 10.59	147.39	71.38	15 57 56.2	-893.3
	Moon II. U.	17.2	9 47 0.78	141.10	69.82	12 53 47.3	944.7
	α Leonis - *	1	9 59 55.97			12 45	
	ρ Leonis - *	4	10 24 27.91			N. 10 8	
10	α Leonis - *	1	9 59 55.99			N. 12 45	
	ρ Leonis - *	4	10 24 27.94			10 8	
	Moon II. L.	- -	10 14 39.98	135.58	68.43	9 41 23.6	-976.2
	Moon II. U.	18.2	10 41 18.31	130.96	67.24	6 24 28.6	990.4
	χ Leonis - *	4.5	10 56 50.34			8 12	
	σ Leonis - *	4	11 12 57.83			N. 6 54	
11	χ Leonis - *	4.5	10 56 50.37			N. 8 12	
	σ Leonis - *	4	11 12 57.86			6 54	
	Moon II. L.	- -	11 7 6.83	127.28	66.29	N. 3 6 14.6	-989.7
	Moon II. U.	19.3	11 32 16.72	124.52	65.56	S. 0 10 32.5	976.3
	b Virginis *	5.6	11 51 49.49			N. 4 32	
12	b Virginis *	5.6	11 51 49.52			N. 4 32	
	Moon II. L.	- -	11 56 58.94	122.66	65.08	S. 3 23 32.1	-952.1
	Moon II. U.	20.3	12 21 23.84	121.63	64.81	6 30 44.0	918.5
	ψ Virginis -	5.6	12 46 6.61			8 40	
	g Virginis -	5.6	12 59 35.41			S. 9 53	
13	ψ Virginis -	5.6	12 46 6.65			S. 8 40	
	g Virginis -	5.6	12 59 35.44			9 53	
	Moon II. L.	- -	12 45 41.13	121.38	64.74	9 30 22.4	-876.6
	Moon II. U.	21.3	13 9 59.66	121.82	64.87	12 20 52.8	827.3
	x Virginis -	5.6	13 41 15.07			S. 17 20	
14	x Virginis -	5.6	13 41 15.11			S. 17 20	
	Moon II. L.	- -	13 34 27.23	122.87	65.15	15 0 49.1	-770.9
	Moon II. U.	22.4	13 59 10.55	124.48	65.56	17 28 48.4	707.9
	2 Libræ - -	6	14 14 52.52			S. 10 59	
15	2 Libræ - -	6	14 14 52.55			S. 10 59	
	Moon II. L.	- -	14 24 15.09	126.80	65.08	19 43 31.5	-638.3
	Moon II. U.	23.4	14 49 44.73	128.39	65.45	21 43 41.4	562.3
	γ ¹ Libræ - -	4.5	15 26 38.65			S. 14 15	
16	γ ¹ Libræ - -	4.5	15 26 38.69			S. 14 15	
	Moon II. L.	- -	15 15 41.60	130.99	65.11	23 28 2	-480.1
	Moon II. U.	24.4	15 42 5.85	133.12	65.48	S. 24 55 21	482.2

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
1841. Jan. 16	♏ Scorpii -	4	^h ^m ^s 16 2 45.94	^s	^s	^o ['] ["] S. 19 2	^o	
	α Scorpii -	1	16 19 40.16			26 4		
17	♏ Scorpii -	4	16 2 45.97			S. 19 2		
	α Scorpii -	1	16 19 40.19			26 4		
	Moon II. L. - -		16 8 55.52	135.10	68.28	26 4 34.4	-299.0	
	Moon II. U. 25.5		16 36 6.51	136.65	68.65	26 54 42.0	201.6	
	A Ophiuchi -	4.5	17 5 34.62			26 22		
	θ Ophiuchi -	3.4	17 12 14.81			S. 24 50		
18	Moon II. L. - -		17 3 32.79	137.62	68.86	S. 27 25 1.3	-101.1	
	Moon II. U. 26.5		17 31 6.72	137.92	68.90	27 35 3.2	+ 0.9	
19	Moon II. L. - -		17 58 39.89	137.48	68.75	S. 27 24 39.5	+102.9	
	Moon II. U. 27.5		18 26 3.56	136.35	68.41	26 54 1.8	203.0	
20	Moon II. L. - -		18 53 9.72	134.58	67.92	S. 26 3 42.3	+299.5	
	Moon II. U. 28.6		19 19 51.45	132.30	67.30	24 54 32.6	391.1	
21	Moon II. L. - -		19 46 3.65	129.69	66.59	S. 23 27 39.4	+476.6	
22	Moon II. U. 29.6		20 11 43.21	126.89	65.83	S. 21 44 22.6	+554.9	
	Moon I. L. - -		20 34 38.84	124.21	65.07	19 46 11.0	625.7	
23	Moon I. U. 0.8		20 59 13.18	121.55	64.35	S. 17 34 37.4	+688.5	
	Moon I. L. - -		21 23 17.08	119.16	63.71	15 11 18.4	743.3	
24	Moon I. U. 1.8		21 46 54.51	117.15	63.18	S. 12 37 49.7	+790.1	
	Moon I. L. - -		22 10 10.71	115.63	62.79	9 55 48.2	828.9	
25	Moon I. U. 2.9		22 33 11.93	114.67	62.55	S. 7 6 47.4	+859.9	
	Moon I. L. - -		22 56 5.28	114.33	62.49	S. 4 12 21.1	883.2	
26	β Piscium -	5	22 55 47.11			N. 2 58		
	φ Aquarii -	5	23 6 5.32			S. 6 54		
	Moon I. U. 3.9		23 18 58.54	114.67	62.63	S. 1 14 3.1	+898.5	
	Moon I. L. - -		23 42 0.16	115.73	62.97	N. 1 46 30.6	905.8	
	ι Piscium *	4.5	23 31 46.37			4 46		
	ω Piscium *	4.5	23 51 9.02			N. 5 59		
27	ι Piscium *	4.5	23 31 46.37			N. 4 46		
	ω Piscium *	4.5	23 51 9.01			5 59		
	Moon I. U. 4.9		0 5 19.09	117.56	63.53	4 47 40.7	+904.5	
	Moon I. L. - -		0 29 4.81	120.20	64.30	7 47 41.3	894.0	
	δ Piscium *	5	0 40 26.68			N. 6 43		
28	δ Piscium *	5	0 40 26.67			N. 6 43		
	Moon I. U. 6.0		0 53 27.20	123.67	65.29	10 44 37.0	+873.5	
	Moon I. L. - -		1 18 36.17	127.97	66.48	13 36 19.7	+841.6	
	γ Piscium -	4	1 22 59.65			N. 14 31		

MOON-CULMINATING STARS. 483

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
1841. Jan. 29	η Piscium -	4	^h 1 ^m 22 ^s 59.64	"	"	N. 14 31	"	
	Moon I. v.	7.0	1 44 41.64	133.07	67.87	16 20 25.2	+797.0	
	Moon I. L.	-	2 11 52.69	138.88	69.41	18 54 10.9	738.0	
	θ ¹ Arietis -	6	2 9 18.47			19 10		
	ψ Arietis -	6	2 22 6.42			N. 17 0		
30	θ ¹ Arietis -	6	2 9 18.45			N. 19 10		
	ψ Arietis -	6	2 22 6.41			17 0		
	Moon I. v.	8.0	2 40 16.99	145.25	71.05	21 14 34.4	+663.1	
	Moon I. L.	-	3 9 59.65	151.89	72.72	23 18 16.2	570.8	
	δ Arietis -	4	3 2 33.89			19 7		
	g Arietis -	5.6	3 14 56.96			N. 24 9		
31	δ Arietis -	4	3 2 33.88			N. 19 7		
	g Arietis -	5.6	3 14 56.95			24 9		
	Moon I. v.	9.1	3 41 1.95	158.44	74.32	25 1 42.7	+460.5	
	Moon I. L.	-	4 13 19.94	164.41	75.76	26 21 18.8	332.5	
	v ¹ Tauri -	5	4 16 49.40			22 27		
	τ Tauri -	5	4 32 44.29			N. 22 39		
Feb. 1	v ¹ Tauri -	5	4 16 49.39			N. 22 27		
	τ Tauri -	5	4 32 44.27			22 39		
	Moon I. v.	10.1	4 46 43.48	169.27	76.90	27 13 40.9	+188.9	
	Moon I. L.	-	5 20 56.17	172.52	77.62	27 36 6.6	+ 33.6	
	β Tauri -	2	5 16 16.88			28 28		
	C Tauri -	4.5	5 43 22.42			N. 27 34		
2	β Tauri -	2	5 16 16.87			N. 28 28		
	C Tauri -	4.5	5 43 22.41			27 34		
	Moon I. v.	11.2	5 55 36.25	173.80	77.87	27 26 40.8	-128.4	
	Moon I. L.	-	6 30 19.13	172.99	77.64	26 44 46.8	290.0	
	μ Geminor.	3	6 13 22.78			22 35		
	ε Geminor.	3	6 34 11.38			N. 25 17		
3	μ Geminor.	3	6 13 22.78			N. 22 35		
	ε Geminor.	3	6 34 11.37			25 17		
	Moon I. v.	12.2	7 4 40.36	170.24	76.94	25 31 9.5	-444.5	
	Moon I. L.	-	7 38 18.87	165.95	75.88	23 47 50.3	585.9	
	α ² Geminor.	3	7 24 29.69			32 14		
	β Geminor.	2	7 35 37.52			N. 28 24		
4	α ² Geminor.	3	7 24 29.69			N. 32 14		
	β Geminor.	2	7 35 37.52			28 24		
	Moon I. v.	13.2	8 10 59.07	160.62	74.56	21 37 57.6	-709.6	
	Moon I. L.	-	8 42 31.78	154.79	73.13	19 5 21.6	-812.7	
	δ Cancri -	4.5	8 35 41.15			18 44		
	α ² Cancri - *	5	8 49 49.61			N. 12 28		
5	δ Cancri -	4.5	8 35 41.15			N. 18 44		
	α ² Cancri - *	5	8 49 49.61			N. 12 28		

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Declination.	V. in 1 of
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.				
1841.			^h ^m ^s	^s	^s		[°] ['] ["]		
Feb. 5	Moon I. u.	14.3	9 12 53.98	148.94	71.66		N. 16 14 19.1	—	
	o Leonis - *	4	9 32 42.19				10 37		
	α Leonis - *	1	9 59 56.51				N. 12 45		
	6 o Leonis - *	4	9 32 42.20				N. 10 37		
	α Leonis - *	1	9 59 56.52				12 45		
	Moon II. L.	-	9 44 28.12	143.19	70.28		13 9 9.7	—	
	Moon II. u.	15.3	10 12 36.19	138.28	69.01		9 54 7.3		
	48 Leonis - *	5.6	10 26 32.65				7 46		
	d Leonis - *	5	10 52 23.18				N. 4 28		
	7 48 Leonis - *	5.6	10 26 32.66				N. 7 46		
	d Leonis - *	5	10 52 23.20				4 28		
	Moon II. L.	-	10 39 49.69	134.11	67.94		6 33 6.5	—	1
	Moon II. u.	16.4	11 6 17.94	130.74	67.08		3 9 43.0		1
	v Leonis -	4.5	11 28 50.69				0 3		
	β Virginis -	3.4	11 42 27.17				N. 2 40		
	8 v Leonis -	4.5	11 28 50.71				N. 0 3		
	β Virginis -	3.4	11 42 27.20				N. 2 40		
	Moon II. L.	-	11 32 10.82	128.21	66.42		S. 0 12 53.6	—	1
	Moon II. u.	17.4	11 57 38.23	126.49	65.98		S. 3 31 55.9		
	η Virginis -	3.4	12 11 48.30				N. 0 13		
	γ ¹ Virginis -	4	12 33 38.09				S. 0 35		
	9 η Virginis -	3.4	12 11 48.32				N. 0 13		
	γ ¹ Virginis -	4	12 33 38.11				S. 0 35		
	Moon II. L.	-	12 22 49.72	125.55	65.76		6 44 56.6	—	
	Moon II. u.	18.4	12 47 54.14	125.31	65.72		9 49 47.5		
	θ Virginis -	4.5	13 1 45.36				4 41		
	α Virginis -	1	13 16 51.20				S. 10 20		
	10 θ Virginis -	4.5	13 1 45.39				S. 4 41		
	α Virginis -	1	13 16 51.23				10 20		
	Moon II. L.	-	13 12 59.57	125.70	65.85		12 44 34.8	—	
	Moon II. u.	19.5	13 38 13.12	126.64	66.12		15 27 36.7		
	λ Virginis -	4	14 10 32.65				S. 12 38		
	11 λ Virginis -	4	14 10 32.68				S. 12 38		
	Moon II. L.	-	14 3 40.72	128.02	66.51		17 57 22.6	—	
	Moon II. u.	20.5	14 29 26.86	129.71	66.98		20 12 27.7		
	20 Libræ -	3.4	14 54 48.34				24 39		
	ι ¹ Libræ -	5.6	15 3 11.48				S. 19 11		
	12 20 Libræ -	3.4	14 54 48.37				S. 24 39		
	ι ¹ Libræ -	5.6	15 3 11.52				19 11		
	Moon II. L.	-	14 55 34.54	131.58	67.48		22 11 35.1	—	
	Moon II. u.	21.5	15 22 4.96	133.48	67.98		23 53 34.1	—	
	δ Scorpïi -	3	15 50 57.61				22 10		
	ω ² Scorpïi -	4.5	15 58 6.48				S. 20 26		

MOON-CULMINATING STARS. 485

At Greenwich Transit.							
Date.	Name.	Mag- nitude.	Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.
1841.			h m s	s	s	° ' "	"
Feb. 13	♏ Scorpii -	3	15 50 57.64			S. 22 10	
	ω [*] Scorpii -	4.5	15 58 6.51			20 26	
	Moon II. L. -	-	15 48 57.46	135.23	68.44	25 17 22.1	-372.0
	Moon II. U. -	22.6	16 16 9.32	136.68	68.81	26 22 4.9	274.6
	25 Scorpii -	6	16 37 9.10			S. 25 14	
14	25 Scorpii -	6	16 37 9.13			S. 25 14	
	Moon II. L. -	-	16 43 36.09	137.69	69.06	27 6 59.7	-174.2
	Moon II. U. -	23.6	17 11 11.66	138.14	69.16	27 31 38.3	-72.0
	3 Sagittarii	5	17 37 33.89			27 46	
	γ [*] Sagittarii	4	17 55 36.50			S. 30 25	
15	3 Sagittarii	5	17 37 33.92			S. 27 46	
	γ [*] Sagittarii	4	17 55 36.53			30 25	
	Moon II. L. -	-	17 38 48.92	137.96	69.08	27 35 47.0	+30.5
	Moon II. U. -	24.6	18 6 20.25	137.15	68.84	27 19 30.8	131.9
	λ Sagittarii	4	18 18 10.03			25 30	
	σ Sagittarii	3	18 45 24.68			S. 26 29	
16	λ Sagittarii	4	18 18 10.06			S. 25 30	
	σ Sagittarii	3	18 45 24.71			26 29	
	Moon II. L. -	-	18 33 38.16	135.74	68.43	26 43 11.2	+230.8
	Moon II. U. -	25.7	19 0 36.05	133.83	67.89	25 47 26.7	325.8
	χ ¹ Sagittarii	6	19 15 35.99			24 49	
	h ² Sagittarii	4.5	19 27 1.94			S. 25 14	
17	Moon II. L. -	-	19 27 8.53	131.53	67.24	S. 24 33 11.3	+415.8
	Moon II. U. -	26.7	19 53 11.94	129.01	66.54	23 1 31.1	499.8
18	Moon II. L. -	-	20 18 44.33	126.39	65.79	S. 21 13 43.0	+577.1
	Moon II. U. -	27.7	20 43 45.61	123.85	65.07	19 11 10.0	647.1
19	Moon II. L. -	-	21 8 17.38	121.49	64.39	S. 16 55 21.9	+709.6
	Moon II. U. -	28.8	21 32 22.66	119.45	63.80	14 27 50.6	764.3
20	Moon II. L. -	-	21 56 5.68	117.80	63.33	S. 11 50 11.3	+810.9
21	Moon II. U. -	0.0	22 19 31.73	116.63	62.99	S. 9 4 1.1	+849.4
	Moon I. L. -	-	22 40 41.41	116.03	62.81	6 10 59.1	879.5
22	Moon I. U. -	1.1	23 3 52.77	115.97	62.81	S. 3 12 46.4	+901.1
	Moon I. L. -	-	23 27 7.29	116.56	63.00	S. 0 11 8.2	913.8
23	Moon I. U. -	2.1	23 50 32.89	117.82	63.38	N. 2 52 7.3	+917.2
	Moon I. L. -	-	0 14 17.89	119.80	63.96	5 55 5.3	910.8
24	Moon I. U. -	3.1	0 38 30.92	122.49	64.74	N. 8 55 44.5	+893.9
	Moon I. L. -	-	1 3 20.71	125.93	65.71	11 51 54.1	+865.7
25	ε Piscium *	4	0 54 42.11			N. 7 2	

At Greenwich Transit.

Date.	Name.	Mag- nitude.	Apparent Right Ascension in Time.			Var. of R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.	Var. of C's Dec. in 1 hour of Long.
1841.			h	m	s			° ' "	"
Feb. 25	Moon I. U.	4.2	1	28	55.94	130.06	66.86	N. 14 41 13.1	+825.3
	Moon I. L.	-	1	55	24.64	134.83	68.16	17 21 8.8	771.7
	β Arietis -	3	1	45	52.41			20 2	
	θ ¹ Arietis -	6	2	9	18.10			N. 19 10	
26	β Arietis -	3	1	45	52.40			N. 20 2	
	θ ¹ Arietis -	6	2	9	18.09			19 10	
	Moon I. U.	5.2	2	22	53.82	140.11	69.57	19 48 56.0	+703.7
	Moon I. L.	-	2	51	28.62	145.73	71.05	22 1 38.5	620.7
	ε Arietis -	5	2	50	8.61			20 42	
	δ Arietis -	4	3	2	33.49			N. 19 7	
27	ε Arietis -	5	2	50	8.59			N. 20 42	
	δ Arietis -	4	3	2	33.47			19 7	
	Moon I. U.	6.2	3	21	11.45	151.40	72.50	23 56 11.5	+522.1
	Moon I. L.	-	3	52	0.87	156.76	73.85	25 29 29.0	408.3
	η Tauri -	3	3	38	3.68			23 37	
	A ¹ Tauri -	5	3	55	19.27			N. 21 39	
28	η Tauri -	3	3	38	3.66			N. 23 37	
	A ¹ Tauri -	5	3	55	19.26			21 39	
	Moon I. U.	7.3	4	23	50.95	161.43	75.00	26 38 34.0	+280.3
	Moon I. L.	-	4	56	30.69	164.97	75.87	27 20 50.6	+140.7
	ι Tauri -	4.5	4	53	37.30			21 21	
	β Tauri -	2	5	16	16.48			N. 28 28	
Mar. 1	ι Tauri -	4.5	4	53	37.28			N. 21 21	
	β Tauri -	2	5	16	16.47			28 28	
	Moon I. U.	8.3	5	29	44.49	167.06	76.36	27 34 20.6	- 6.8
	Moon I. L.	-	6	3	13.55	167.49	76.45	27 17 55.9	157.5
	C Tauri -	4.5	5	43	22.04			27 34	
	κ Aurigæ -	4	6	5	16.92			N. 29 33	
2	C Tauri -	4.5	5	43	22.02			N. 27 34	
	κ Aurigæ -	4	6	5	16.90			29 33	
	Moon I. U.	9.4	6	36	37.63	166.25	76.14	26 31 28.7	-306.3
	Moon I. L.	-	7	9	37.71	163.54	75.46	25 15 52.7	448.1
	δ Geminor.	3.4	7	10	39.77			22 16	
	α ² Geminor.	3	7	24	29.50			N. 32 14	
3	δ Geminor.	3.4	7	10	39.75			N. 22 16	
	α ² Geminor.	3	7	24	29.48			32 14	
	Moon I. U.	10.4	7	41	58.03	159.68	74.50	23 33 0.6	-578.4
	Moon I. L.	-	8	13	27.21	155.10	73.34	21 25 30.8	693.8
	λ Cancrī -	6	8	11	6.64			24 31	
	θ Cancrī -	5.6	8	22	33.96			N. 18 38	
4	λ Cancrī -	6	8	11	6.63			N. 24 31	
	θ Cancrī -	5.6	8	22	33.95			18 38	
	Moon I. U.	11.4	8	43	59.09	150.20	72.09	N. 18 56 36.1	-792.3

MOON-CULMINATING STARS. 487

At Greenwich Transit.										
Date.	Name.	Magnitude.	Apparent Right Ascension in Time.			Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
1841.			h	m	s	s	s	° ' "	"	
Mar. 4	Moon I. L.	- -	9	13	32	12	145°35	70°83	N.16 9 48	4 - 872.5
	q Cancri - -	6	9	10	8	51			18 23	
	ξ Leonis - *	5	9	23	24	92			N.12 0	
5	q Cancri - -	6	9	10	8	50			N.18 23	
	ξ Leonis - *	5	9	23	24	92			12 0	
	Moon I. U.	12.5	9	42	8	66	140°82	69°66	13 8 49	3 - 934.3
	Moon I. L.	- -	10	9	53	96	136°83	68°60	9 57 18	6 977.9
	α Leonis - *	1	9	59	56	70			12 45	
	ρ Leonis - *	4	10	24	28	77			N.10 7	
6	α Leonis - *	1	9	59	56	70			N.12 45	
	ρ Leonis - *	4	10	24	28	77			10 7	
	Moon I. U.	13.5	10	36	55	16	133°49	67°71	6 38 49	9 - 1004.1
	χ Leonis - *	4.5	10	56	51	31			8 12	
	σ Leonis - *	4	11	12	58	89			N. 6 54	
7	χ Leonis - *	4.5	10	56	51	31			N. 8 12	
	σ Leonis - *	4	11	12	58	90			6 54	
	Moon I. L.	- -	11	3	20	61	130°87	67°01	N. 3 16 44	5 - 1014.1
	Moon II. U.	14.5	11	31	32	06	128°93	66°51	S. 0 5 47	2 1008.8
	b Virginis *	5.6	11	51	50	69			N. 4 32	
8	b Virginis *	5.6	11	51	50	71			N. 4 32	
	Moon II. L.	- -	11	57	11	82	127°81	66°21	S. 3 25 50	9 - 989.6
	Moon II. U.	15.6	12	22	42	33	127°39	66°10	6 40 45	5 957.5
	ψ Virginis -	5.6	12	46	8	02			8 40	
	θ Virginis -	4.5	13	1	45	96			S. 4 41	
9	ψ Virginis -	5.6	12	46	8	03			S. 8 40	
	θ Virginis -	4.5	13	1	45	97			4 41	
	Moon II. L.	- -	12	48	11	59	127°59	66°16	9 48 4	4 - 913.7
	Moon II. U.	16.6	13	13	46	71	128°35	66°39	12 45 32	2 859.3
	m Virginis -	5.6	13	33	19	02			7 54	
	x Virginis -	5.6	13	41	16	69			S.17 20	
10	m Virginis -	5.6	13	33	19	04			S. 7 54	
	x Virginis -	5.6	13	41	16	71			17 20	
	Moon II. L.	- -	13	39	33	73	129°56	66°73	15 31 8	4 - 795.2
	Moon II. U.	17.7	14	5	37	40	131°11	67°17	18 3 1	3 722.3
	α ² Libræ - -	3	14	42	7	74			S.15 23	
11	α ² Libræ - -	3	14	42	7	76			S.15 23	
	Moon II. L.	- -	14	32	1	07	132°86	67°66	20 19 32	1 - 641.6
	Moon II. U.	18.7	14	58	46	29	134°67	68°17	22 19 11	1 - 553.9
	γ ¹ Libræ - -	4.5	15	26	40	41			14 15	
	b Scorpil -	5	15	41	27	70			S.25 16	
12	γ ¹ Libræ - -	4.5	15	26	40	44			S.14 15	
	b Scorpil -	5	15	41	27	73			S.25 16	

488 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☉'s R. A. in 1 hour of Long.	Sidereal Time of ☉'s Sem. pas. mer.	Declination.	Var. of ☉'s De- clination in 1 hour of Long.	
1841. Mar. 12			^h ^m ^s	^s	^s	[°] ['] ["]	["]	
	Moon II. L.	- -	15 25 52 '83	136 '38	68 '64	S. 24 0 42 '0	-460	
	Moon II. U.	19 '7	15 53 18 '43	137 '83	69 '04	25 23 1 '3	362	
	σ Scorpii -	4	16 11 34 '04			25 12		
	α Scorpii -	1	16 19 42 '04			S. 26 4		
13	σ Scorpii -	4	16 11 34 '07			S. 25 12		
	α Scorpii -	1	16 19 42 '04			26 4		
	Moon II. L.	- -	16 20 59 '04	138 '86	69 '33	26 25 18 '8	-260	
	Moon II. U.	20 '8	16 48 48 '95	139 '36	69 '47	27 7 1 '3	156	
	θ Ophiuchi -	3.4	17 12 16 '62			24 50		
	ε ^a Ophiuchi -	5	17 21 44 '74			S. 23 50		
14	θ Ophiuchi -	3.4	17 12 16 '66			S. 24 50		
	ε ^a Ophiuchi -	5	17 21 44 '77			23 50		
	Moon II. L.	- -	17 16 41 '35	139 '26	69 '46	27 27 52 '9	- 52	
	Moon II. U.	21 '8	17 44 28 '75	138 '53	69 '27	27 27 55 '2	+ 51	
	μ ¹ Sagittarii	3.4	18 4 16 '70			21 6		
	λ Sagittarii	4	18 18 10 '90			S. 25 30		
15	μ ¹ Sagittarii	3.4	18 4 16 '74			S. 21 6		
	λ Sagittarii	4	18 18 10 '94			25 30		
	Moon II. L.	- -	18 12 3 '70	137 '20	68 '92	27 7 27 '7	+152	
	Moon II. U.	22 '8	18 39 19 '49	135 '35	68 '43	26 27 5 '6	250	
	τ Sagittarii	4	18 57 1 '95			27 54		
	ρ ¹ Sagittarii	5	19 12 28 '07			S. 18 8		
16	τ Sagittarii	4	18 57 1 '98			S. 27 54		
	ρ ¹ Sagittarii	5	19 12 28 '10			18 8		
	Moon II. L.	- -	19 6 10 '63	133 '11	67 '82	25 27 38 '9	+343	
	Moon II. U.	23 '9	19 32 33 '13	130 '61	67 '13	24 10 8 '3	430	
	c Sagittarii	4.5	19 52 53 '41			28 9		
	α ² Capricorni	3	20 9 14 '40			S. 13 2		
17	c Sagittarii	4.5	19 52 53 '44			S. 28 9		
	α ² Capricorni	3	20 9 14 '43			13 2		
	Moon II. L.	- -	19 58 24 '81	128 '00	66 '40	22 35 43 '2	+512	
	Moon II. U.	24 '9	20 23 45 '33	125 '44	65 '68	20 45 38 '8	587	
	ε Aquarii -	4.5	20 39 4 '58			10 4		
	η Capricorni	5	20 55 21 '66			S. 20 29		
18	Moon II. L.	- -	20 48 35 '93	123 '04	64 '98	S. 18 41 14 '5	+655	
	Moon II. U.	25 '9	21 12 59 '41	120 '93	64 '36	16 23 52 '9	716	
19	Moon II. L.	- -	21 36 59 '78	119 '20	63 '84	S. 13 54 57 '5	+771	
	Moon II. U.	27 '0	22 0 42 '15	117 '94	63 '45	11 15 56 '0	817	
20	Moon II. L.	- -	22 24 12 '46	117 '20	63 '21	S. 8 28 17 '7	+857	
	Moon II. U.	28 '0	22 47 37 '33	117 '05	63 '12	5 33 36 '8	888	
21	Moon II. L.	- -	23 11 4 '08	117 '51	63 '23	S. 2 33 32 '6	+910	

Date.	Name.	Mag- nitude.	At Greenwich Transit.				
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.
1841. Mar. 21	Moon II. u.	29 0	^h ^m ^s 23 34 40 30	^s 118 64	^s 63 51	N. 0 30 7 6	+924 3
22	Moon II. L.	- -	23 58 34 10	120 45	63 99	N. 3 35 30 0	+927 7
23	Moon I. u.	0 4	0 20 44 51	122 83	64 68	N. 6 40 27 8	+920 1
	Moon I. L.	- -	0 45 36 90	126 01	65 54	9 42 44 5	900 7
24	Moon I. u.	1 4	1 11 11 52	129 87	66 59	N. 12 39 51 8	+868 3
	Moon I. L.	- -	1 37 36 20	134 34	67 79	15 29 6 3	821 8
25	Moon I. u.	2 5	2 4 57 65	139 31	69 11	N. 18 7 34 2	+760 3
	Moon I. L.	- -	2 33 20 95	144 61	70 50	20 32 9 9	683 0
26	Moon I. u.	3 5	3 2 48 51	149 97	71 88	N. 22 39 43 0	+589 8
	Moon I. L.	- -	3 33 19 25	155 08	73 19	24 27 3 0	481 0
27	η Tauri - -	3	3 38 3 28			N. 23 37	
	Δ ¹ Tauri - -	5	3 55 18 85			21 39	
	Moon I. u.	4 5	4 4 47 90	159 55	74 31	25 51 10 9	+358 0
	Moon I. L.	- -	4 37 4 45	163 00	75 18	26 49 29 9	223 4
	τ Tauri - -	5	4 32 43 41			22 39	
	ι Tauri - -	4.5	4 53 36 84			N. 21 21	
28	τ Tauri - -	5	4 32 43 40			N. 22 39	
	ι Tauri - -	4.5	4 53 36 83			21 21	
	Moon I. u.	5 6	5 9 54 53	165 09	75 71	27 20 0 0	+ 80 6
	Moon I. L.	- -	5 43 0 52	165 63	75 87	27 21 29 4	- 65 9
	ζ Tauri - -	3.4	5 28 9 92			21 2	
	C Tauri - -	4.5	5 43 21 55			N. 27 34	
29	ζ Tauri - -	3.4	5 28 9 90			N. 21 2	
	C Tauri - -	4.5	5 43 21 53			27 34	
	Moon I. u.	6 6	6 16 3 31	164 57	75 63	26 53 42 2	-211 3
	Moon I. L.	- -	6 48 44 53	162 07	75 04	25 57 20 8	350 9
	ε Geminor.	3	6 34 10 62			25 17	
	ζ Geminor.	4	6 54 42 38			N. 20 48	
30	ε Geminor.	3	6 34 10 60			N. 25 17	
	ζ Geminor.	4	6 54 42 37			20 48	
	Moon I. u.	7 7	7 20 48 55	158 43	74 17	24 33 58 1	-480 8
	Moon I. L.	- -	7 52 3 91	154 03	73 09	22 45 51 1	597 9
	β Geminor.	2	7 35 36 92			28 24	
	6 Cancri - -	5.6	7 53 46 48			N. 28 14	
31	β Geminor.	2	7 35 36 91			N. 28 24	
	6 Cancri - -	5.6	7 53 46 47			28 14	
	Moon I. u.	8 7	8 22 23 88	149 27	71 91	20 35 45 9	-700 3
	Moon I. L.	- -	8 51 46 30	144 49	70 68	18 6 46 6	-786 9
	δ Cancri - -	4.5	8 35 40 81			18 44	
	ξ Cancri - -	5.6	9 0 14 95			N. 22 41	

490 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☉'s R. A. in 1 hour of Long.	Sidereal Time of ☉'s Sem. pas. mer.	Declination.	Var. ☉'s L. in 1 h of Lon.	
1841.			h m s	s	s	° ' "		
Apr. 1	♂ Cancri - -	4.5	8 35 40 '80			N. 18 44		
	ξ Cancri - -	5.6	9 0 14 '93			22 41		
	Moon I. U. -	9.8	9 20 12 '77	139 '99	69 '51	15 22 4 '2	-857	
	Moon I. L. -	-	9 47 47 '93	135 '97	68 '45	12 24 51 '0	912	
	♂ Leonis - *	4	9 32 42 '11			10 37		
	α Leonis - *	1	9 59 56 '58			N. 12 45		
2	♂ Leonis - *	4	9 32 42 '10			N. 10 37		
	α Leonis - *	1	9 59 56 '57			12 45		
	Moon I. U. -	10.8	10 14 38 '51	132 '57	67 '53	9 18 14 '3	-951	
	Moon I. L. -	-	10 40 52 '48	129 '88	66 '79	6 5 15 '1	976	
	48 Leonis - *	5.6	10 26 32 '83			7 46		
	χ Leonis - *	4.5	10 56 51 '32			N. 8 12		
3	48 Leonis - *	5.6	10 26 32 '82			N. 7 46		
	χ Leonis - *	4.5	10 56 51 '31			8 12		
	Moon I. U. -	11.8	11 6 38 '53	127 '92	66 '23	N. 2 48 46 '2	-986	
	Moon I. L. -	-	11 32 5 '53	126 '70	65 '88	S. 0 28 26 '9	983	
	υ Leonis - -	4.5	11 28 51 '18			N. 0 3		
	β Virginis -	3.4	11 42 27 '73			N. 2 40		
4	υ Leonis - -	4.5	11 28 51 '18			N. 0 3		
	β Virginis -	3.4	11 42 27 '73			N. 2 40		
	Moon I. U. -	12.9	11 57 22 '19	126 '20	65 '73	S. 3 43 46 '4	-967	
	Moon I. L. -	-	12 22 36 '92	126 '36	65 '75	S. 6 54 41 '3	939	
	η Virginis -	3.4	12 11 48 '99			N. 0 13		
	γ ¹ Virginis -	4	12 33 38 '89			S. 0 35		
5	η Virginis -	3.4	12 11 49 '00			N. 0 13		
	γ ¹ Virginis -	4	12 33 38 '90			S. 0 35		
	Moon I. U. -	13.9	12 47 57 '29	127 '13	65 '94	9 58 47 '5	-899	
	53 Virginis -	5	13 3 39 '07			15 20		
	α Virginis -	1	13 16 52 '22			S. 10 20		
6	53 Virginis -	5	13 3 39 '08			S. 15 20		
	α Virginis -	1	13 16 52 '23			10 20		
	Moon II. L. -	-	13 15 42 '61	128 '48	66 '28	12 53 47 '3	-848	
	Moon II. U. -	14.9	13 41 34 '32	130 '20	66 '74	15 37 30 '5	786	
	κ Virginis -	4	14 4 28 '15			9 32		
	λ Virginis -	4	14 10 33 '91			S. 12 38		
7	κ Virginis -	4	14 4 28 '17			S. 9 32		
	λ Virginis -	4	14 10 33 '92			12 38		
	Moon II. L. -	-	14 7 48 '41	132 '18	67 '27	18 7 54 '0	-715	
	Moon II. U. -	16.0	14 34 27 '33	134 '31	67 '84	20 23 4 '5	634	
	20 Libræ - -	3.4	14 54 49 '86			24 39		
	♂ Libræ - -	5.6	15 3 12 '98			S. 19 11		
8	20 Libræ - -	3.4	14 54 49 '88			S. 24 39		
	♂ Libræ - -	5.6	15 3 13 '00			S. 19 11		

MOON-CULMINATING STARS. 491

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
841. pr. 8	Moon II. L.	- -	^h ^m ^s 15 1 31.49	^s 136.37	^s 68.40	[°] ['] ["] S. 22 21 19.6	["] -546.4	
	Moon II. U.	17.0	15 28 59.37	138.22	68.91	24 1 10.2	451.0	
	♂ Scorpii -	3	15 50 59.27			22 10		
	σ Scorpii -	4	16 11 34.83			S. 25 12		
9	♂ Scorpii -	3	15 50 59.29			S. 22 10		
	σ Scorpii -	4	16 11 34.86			25 12		
	Moon II. L.	- -	15 56 47.23	139.67	69.31	25 21 23.2	-350.4	
	Moon II. U.	18.0	16 24 49.33	140.56	69.58	26 21 5.1	246.1	
	25 Scorpii -	6	16 37 10.89			25 14		
	A Ophiuchi -	4.5	17 5 37.33			S. 26 22		
10	25 Scorpii -	6	16 37 10.92			S. 25 14		
	A Ophiuchi -	4.5	17 5 37.36			26 22		
	Moon II. L.	- -	16 52 58.42	140.82	69.68	26 59 42.7	-140.0	
	Moon II. U.	19.1	17 21 6.27	140.36	69.60	27 17 4.7	-33.9	
	3 Sagittarii	5	17 37 35.77			27 46		
	γ Sagittarii -	4	17 55 38.41			S. 30 25		
11	3 Sagittarii	5	17 37 35.80			S. 27 46		
	γ Sagittarii	4	17 55 38.45			30 25		
	Moon II. L.	- -	17 49 4.38	139.21	69.32	27 13 22.8	+70.4	
	Moon II. U.	20.1	18 16 44.75	137.42	68.89	26 49 7.2	171.5	
	φ Sagittarii	4.5	18 35 45.56			27 9		
	σ Sagittarii	3	18 45 26.47			S. 26 29		
12	φ Sagittarii	4.5	18 35 45.59			S. 27 9		
	σ Sagittarii	3	18 45 26.50			26 29		
	Moon II. L.	- -	18 44 0.51	135.13	68.31	26 5 5.8	+267.9	
	Moon II. U.	21.1	19 10 46.47	132.48	67.62	25 2 20.8	358.6	
	h ² Sagittarii	4.5	19 27 3.63			25 14		
	57 Sagittarii	5.6	19 42 59.07			S. 19 26		
13	h ² Sagittarii	4.5	19 27 3.66			S. 25 14		
	57 Sagittarii	5.6	19 42 59.10			19 26		
	Moon II. L.	- -	19 36 59.41	129.66	66.88	23 42 3.5	+443.2	
	Moon II. U.	22.2	20 2 38.14	126.81	66.12	22 5 30.3	521.2	
	ρ Capricorni	5	20 19 48.74			18 20		
	ν Capricorni	5	20 31 1.20			S. 18 42		
14	ρ Capricorni	5	20 19 48.78			S. 18 20		
	ν Capricorni	5	20 31 1.23			18 42		
	Moon II. L.	- -	20 27 43.36	124.09	65.37	20 14 0.7	+592.6	
	Moon II. U.	23.2	20 52 17.45	121.64	64.68	18 8 54.5	657.3	
	s Capricorni	5	21 6 57.90			15 50		
	β Aquarii -	3	21 23 12.20			S. 6 16		
15	s Capricorni	5	21 6 57.93			S. 15 50		
	β Aquarii -	3	21 23 12.23			6 16		
	Moon II. L.	- -	21 16 24.30	119.57	64.09	S. 15 51 31.0	+715.5	

492 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var in 1 of L
			Apparent Right Ascension in Time.	Var. of ☉'s R. A. in 1 hour of Long.	Sidereal Time of ☉'s Sem. pas. mer.	Declination.		
1841. Apr. 15	Moon II. v.	24.2	^h 21 ^m 40 ^s 9.10	^s 117.97	^s 63.61	S. 13 23 8.9	+76	
	♈ Aquarii -	4.5	21 57 51.72			14 38		
	♉ Aquarii -	4.5	22 8 27.23			S. 8 34		
16	♈ Aquarii -	4.5	21 57 51.75			S. 14 38		
	♉ Aquarii -	4.5	22 8 27.25			8 34		
	Moon II. L.	-	22 3 37.81	116.91	63.28	10 45 6.4	+81	
	Moon II. v.	25.3	22 26 57.30	116.44	63.11	7 58 43.8	85	
	♈ Aquarii -	4	22 44 19.82			S. 8 25		
	♊ Piscium -	5	22 55 47.82			N. 2 58		
17	Moon II. L.	-	22 50 15.06	116.63	63.12	S. 5 5 24.1	+88	
	Moon II. v.	26.3	23 13 39.13	117.50	63.32	S. 2 6 36.9	90	
18	Moon II. L.	-	23 37 18.03	119.10	63.72	N. 0 56 0.3	+91	
	Moon II. v.	27.3	0 1 20.60	121.45	64.33	4 0 37.9	92	
19	Moon II. L.	-	0 25 55.98	124.57	65.15	N. 7 5 13.1	+91	
	Moon II. v.	28.4	0 51 13.18	128.43	66.15	10 7 25.5	90	
20	Moon II. L.	-	1 17 21.18	133.02	67.34	N. 13 4 37.3	+86	
	Moon II. v.	29.4	1 44 27.95	138.21	68.68	15 53 51.1	82	
21	Moon I. L.	-	2 10 19.84	143.63	70.13	N. 18 31 51.7	+756	
22	Moon I. v.	0.9	2 39 38.62	149.52	71.60	N. 20 55 8.3	+673	
	Moon I. L.	-	3 10 7.86	155.31	73.05	23 0 4.5	572	
23	Moon I. v.	1.9	3 41 43.90	160.58	74.34	N. 24 43 7.2	+454	
	Moon I. L.	-	4 14 17.90	164.88	75.40	26 0 59.5	321	
24	Moon I. v.	3.0	4 47 35.55	167.78	76.11	N. 26 51 2.9	+177	
	Moon I. L.	-	5 21 17.99	168.98	76.43	27 11 29.1	+26	
25	♊ Tauri -	2	5 16 15.62			N. 28 28		
	♈ Tauri -	3.4	5 28 9.56			21 2		
	Moon I. v.	4.0	5 55 3.75	168.33	76.30	27 1 34.8	-125	
	Moon I. L.	-	6 28 31.10	165.95	75.77	26 21 45.3	271	
	♊ Geminor.	3	6 13 21.60			22 35		
	♈ Geminor.	3	6 34 10.19			N. 25 17		
26	♊ Geminor.	3	6 13 21.59			N. 22 35		
	♈ Geminor.	3	6 34 10.18			25 17		
	Moon I. v.	5.1	7 1 20.93	162.14	74.89	25 13 29.0	-40	
	Moon I. L.	-	7 33 18.63	157.34	73.75	23 39 7.2	-53	
	♈ Geminor.	3	7 24 28.55			32 14		
	♊ Geminor.	2	7 35 36.46			N. 28 24		
27	♈ Geminor.	3	7 24 28.53			N. 32 14		
	♊ Geminor.	2	7 35 36.44			N. 28 24		

Date.	Name.	Mag- nitude.	At Greenwich Transit.				
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.
			^h ^m ^s	^s	^s	[°] ['] ["]	["]
41. r. 27	Moon I. U.	6.1	8 4 14.86	151.99	72.45	N. 21 41 35.5	-640.2
	Moon I. L.	-	8 34 5.81	146.52	71.10	19 24 8.4	731.5
	♂ Cancri -	4.5	8 35 40.41			18 44	
	α ² Cancri -	5	8 49 48.96			N. 12 28	
28	♂ Cancri -	4.5	8 35 40.39			N. 18 44	
	α ² Cancri -	5	8 49 48.95			12 28	
	Moon I. U.	7.2	9 2 52.27	141.29	69.79	16 50 6.1	-806.2
	Moon I. L.	-	9 30 38.68	136.55	68.57	14 2 44.4	864.9
	ξ Leonis -	5	9 23 24.36			12 0	
	ο Leonis -	4	9 32 41.78			N. 10 37	
29	ξ Leonis -	5	9 23 24.35			N. 12 0	
	ο Leonis -	4	9 32 41.77			10 37	
	Moon I. U.	8.2	9 57 31.98	132.46	67.50	11 5 9.4	-908.6
	Moon I. L.	-	10 23 40.68	129.13	66.61	8 0 15.0	938.3
	ρ Leonis -	4	10 24 28.43			N. 10 7	
30	ρ Leonis -	4	10 24 28.42			N. 10 7	
	Moon I. U.	9.2	10 49 14.16	126.59	65.92	4 50 43.0	-955.0
	Moon I. L.	-	11 14 22.02	124.86	65.44	1 39 4.5	959.5
	σ Leonis -	4	11 12 58.77			N. 6 54	
	e Leonis -	4.5	11 22 13.98			S. 2 8	
ay 1	σ Leonis -	4	11 12 58.76			N. 6 54	
	e Leonis -	4.5	11 22 13.98			S. 2 8	
	Moon I. U.	10.3	11 39 13.90	123.92	65.16	1 32 17.9	-952.4
	Moon I. L.	-	12 3 59.02	123.72	65.07	S. 4 41 8.0	934.2
	η Virginis -	3.4	12 11 48.96			N. 0 13	
2	η Virginis -	3.4	12 11 48.96			N. 0 13	
	Moon I. U.	11.3	12 28 46.06	124.23	65.18	S. 7 45 16.1	-905.3
	Moon I. L.	-	12 53 42.93	125.35	65.46	10 42 33.9	865.9
	ψ Virginis -	5.6	12 46 8.36			8 40	
	θ Virginis -	4.5	13 1 46.38			S. 4 41	
3	ψ Virginis -	5.6	12 46 8.36			S. 8 40	
	θ Virginis -	4.5	13 1 46.39			4 41	
	Moon I. U.	12.3	13 18 56.61	127.01	65.87	13 30 56.6	-816.1
	Moon I. L.	-	13 44 32.79	129.08	66.40	16 8 20.9	756.3
	x Virginis -	5.6	13 41 17.35			S. 17 20	
4	x Virginis -	5.6	13 41 17.35			S. 17 20	
	Moon I. U.	13.4	14 10 35.62	131.43	67.00	18 32 49.1	-686.8
	Moon I. L.	-	14 37 7.43	133.88	67.63	20 42 26.6	-608.0
	α ² Libræ -	3	14 42 8.71			15 23	
20 I			1 54 50.28			S. 24 39	
5						S. 15 23	
2						S. 24 39	

Date.	Name.	Mag- nitude.	At Greenwich Transit.						Declination.	Var. of C's in 1 of 1
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.					
1841. May 5	Moon II. v.	14.4	^h 15 ^m 6 ^s 24.97	136.36	68.35	S. 22 35 27.2	-54			
	κ Libræ -	5	15 32 51.06			19 9				
	π Scorpii -	3.4	15 49 18.12			S. 25 39				
6	κ Libræ -	5	15 32 51.07			S. 19 9				
	π Scorpii -	3.4	15 49 18.14			25 39				
	Moon II. L.	-	15 33 54.21	138.45	68.79	24 10 14.9	-4			
	Moon II. v.	15.5	16 1 45.93	140.07	69.22	25 25 33.4	3			
	σ Scorpii -	4	16 11 35.48			25 12				
	α Scorpii -	1	16 19 43.52			S. 26 4				
7	σ Scorpii -	4	16 11 35.50			S. 25 12				
	α Scorpii -	1	16 19 43.54			26 4				
	Moon II. L.	-	16 29 53.32	141.04	69.49	26 20 22.7	-2			
	Moon II. v.	16.5	16 58 8.04	141.27	69.58	26 54 5.1	1			
	θ Ophiuchi -	3.4	17 12 18.27			24 50				
	3 Sagittarii	5	17 37 36.58			S. 27 46				
8	θ Ophiuchi -	3.4	17 12 18.29			S. 24 50				
	3 Sagittarii	5	17 37 36.60			27 46				
	Moon II. L.	-	17 26 20.68	140.69	69.46	27 6 29.6	-			
	Moon II. v.	17.5	17 54 21.65	139.34	69.15	26 57 51.1	+			
	λ Sagittarii	4	18 18 12.70			25 30				
	φ Sagittarii	4.5	18 35 46.44			S. 27 9				
9	λ Sagittarii	4	18 18 12.73			S. 25 30				
	φ Sagittarii	4.5	18 35 46.47			27 9				
	Moon II. L.	-	18 22 2.13	137.30	68.66	26 28 45.1	+19			
	Moon II. v.	18.6	18 49 14.73	134.72	68.03	25 40 7.6	29			
	π Sagittarii	4.5	19 0 21.32			21 16				
	h ² Sagittarii	4.5	19 27 4.53			S. 25 14				
10	π Sagittarii	4.5	19 0 21.35			S. 21 16				
	h ² Sagittarii	4.5	19 27 4.57			25 14				
	Moon II. L.	-	19 15 54.04	131.78	67.29	24 33 10.0	+37			
	Moon II. v.	19.6	19 41 56.84	128.67	66.49	23 9 12.0	46			
	α ² Capricorni	3	20 9 16.11			13 2				
	ρ Capricorni	5	20 19 49.62			S. 18 20				
11	α ² Capricorni	3	20 9 16.14			S. 13 2				
	ρ Capricorni	5	20 19 49.65			18 20				
	Moon II. L.	-	20 7 22.18	125.57	65.69	21 29 38.7	+53			
	Moon II. v.	20.6	20 32 11.18	122.64	64.91	19 35 56.6	60			
	η Capricorni	5	20 55 23.31			20 29				
	ς Capricorni	5	21 6 58.74			S. 15 50				
12	η Capricorni	5	20 55 23.34			S. 20 29				
	ς Capricorni	5	21 6 58.78			15 50				
	Moon II. L.	-	20 56 26.78	120.03	64.20	17 29 30.6	+6			
	Moon II. v.	21.6	21 20 13.46	117.83	63.60	S. 15 11 42.3	+7			

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
			^h ^m ^s	^s	^s	[°] ['] ["]	["]	
841. ay 12	♏ Capricorni	3.4	21 38 17.37			S. 16 51		
	♒ Aquarii -	4.5	21 57 52.52			14 38		
13	♏ Capricorni	3.4	21 38 17.40			S. 16 51		
	♒ Aquarii -	4.5	21 57 52.56			14 38		
	Moon II. L.	-	21 43 36.79	116.15	63.13	12 43 50.0	+762.4	
	Moon II. U.	22.7	22 6 43.47	115.06	62.82	10 7 9.2	803.3	
	♒ Aquarii -	4	22 20 40.13			0 50		
	♒ Aquarii -	4	22 44 20.56			S. 8 25		
14	♒ Aquarii -	4	22 20 40.16			S. 0 50		
	♒ Aquarii -	4	22 44 20.59			8 25		
	Moon II. L.	-	22 29 40.89	114.62	62.68	7 22 54.7	+838.1	
	Moon II. U.	23.7	22 52 37.18	114.88	62.73	S. 4 32 21.6	866.4	
	♒ Piscium -	4.5	23 8 56.79			N. 2 25		
	♒ Piscium -	5.6	23 18 48.30			N. 0 23		
15	♒ Piscium -	4.5	23 8 56.82			N. 2 25		
	♒ Piscium -	5.6	23 18 48.33			N. 0 23		
	Moon II. L.	-	23 15 40.94	115.88	62.98	S. 1 36 48.9	+887.9	
	Moon II. U.	24.7	23 39 1.38	117.66	63.45	N. 1 22 17.1	901.8	
	d Piscium *	5.6	0 12 26.32			N. 7 18		
16	Moon II. L.	-	0 2 48.14	120.27	64.14	N. 4 23 20.5	+907.2	
	Moon II. U.	25.8	0 27 11.15	123.71	65.05	7 24 30.1	902.6	
17	Moon II. L.	-	0 52 20.53	128.00	66.17	N. 10 23 36.5	+886.5	
	Moon II. U.	26.8	1 18 26.37	133.10	67.48	13 18 11.2	856.8	
18	Moon II. L.	-	1 45 37.83	138.93	68.95	N. 16 5 18.2	+811.6	
	Moon II. U.	27.8	2 14 2.87	145.33	70.56	18 41 39.7	748.8	
19	Moon II. L.	-	2 43 46.76	152.03	72.20	N. 21 3 33.3	+666.8	
	Moon II. U.	28.9	3 14 50.92	158.63	73.81	23 7 2.9	564.8	
20	Moon II. L.	-	3 47 11.42	164.65	75.26	N. 24 48 10.3	+443.2	
21	Moon I. U.	0.5	4 18 5.22	169.38	76.43	N. 26 3 10.5	+304.1	
	Moon I. L.	-	4 52 19.67	172.70	77.20	26 48 58.2	+152.0	
22	Moon I. U.	1.5	5 27 2.00	173.98	77.50	N. 27 3 30.1	- 7.4	
	Moon I. L.	-	6 1 46.68	173.10	77.31	26 45 59.0	167.2	
23	Moon I. U.	2.6	6 36 8.39	170.20	76.65	N. 25 57 2.3	-320.5	
	Moon I. L.	-	7 9 44.98	165.67	75.60	24 38 34.8	461.4	
24	M		12 20.14	160.05	74.28	N. 22 53 33.5	-585.7	
	M		44.07	153.90	72.81	20 45 31.9	-691.2	
25	♒					N. 24 31		

Date.	Name.	Mag- nitude.	At Greenwich Transit.						Var. C's I in 11 of L
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.			
1841.			h m s	s	s	° ' "			
May 25	θ Cancr - -	5.6	8 22 32.89			N. 18 38			
	Moon I. U.	4.7	8 43 53.51	147.71	71.31	18 18 21.0	-777		
	Moon I. L.	-	9 12 50.45	141.87	69.87	15 35 51.2	844		
	ξ Cancr - -	5.6	9 0 14.19			22 41			
	ξ Leonis - *	5	9 23 24.04			N. 12 0			
26	ξ Cancr - -	5.6	9 0 14.18			N. 22 41			
	ξ Leonis - *	5	9 23 24.03			12 0			
	Moon I. U.	5.7	9 40 40.73	136.63	68.54	12 41 40.6	-894		
	Moon I. L.	-	10 7 32.69	132.17	67.39	9 39 10.4	928		
	α Leonis - *	1	9 59 55.95			12 45			
	ρ Leonis - *	4	10 24 28.13			N. 10 7			
27	α Leonis - *	1	9 59 55.94			N. 12 45			
	ρ Leonis - *	4	10 24 28.12			10 7			
	Moon I. U.	6.8	10 33 36.15	128.56	66.44	6 31 20.5	-947		
	Moon I. L.	-	10 59 1.56	125.83	65.72	3 20 52.3	954		
	χ Leonis - *	4.5	10 56 50.84			N. 8 12			
	ϕ Leonis - -	5	11 8 36.99			S. 2 47			
28	χ Leonis - *	4.5	10 56 50.83			N. 8 12			
	ϕ Leonis - -	5	11 8 36.96			S. 2 47			
	Moon I. U.	7.8	11 23 59.44	123.97	65.21	N. 0 10 11.6	-950		
	Moon I. L.	-	11 48 40.09	122.95	64.93	S. 2 58 29.4	935		
	β Virginis -	3.4	11 42 27.41			N. 2 40			
29	β Virginis -	3.4	11 42 27.40			N. 2 40			
	Moon I. U.	8.8	12 13 13.28	122.71	64.85	S. 6 3 8.5	-909		
	Moon I. L.	-	12 37 48.15	123.21	64.98	9 1 49.4	875		
	γ^1 Virginis -	4	12 33 38.78			0 35			
	ψ Virginis -	5.6	12 46 8.25			S. 8 40			
30	γ^1 Virginis -	4	12 33 38.77			S. 0 35			
	ψ Virginis -	5.6	12 46 8.25			8 40			
	Moon I. U.	9.9	13 2 32.98	124.36	65.26	11 52 40.9	-831		
	Moon I. L.	-	13 27 34.90	126.05	65.70	14 33 53.4	778		
	α Virginis -	1	13 16 52.31			10 20			
	x Virginis -	5.6	13 41 17.35			S. 17 20			
31	α Virginis -	1	13 16 52.31			S. 10 20			
	x Virginis -	5.6	13 41 17.35			17 20			
	Moon I. U.	10.9	13 52 59.88	128.18	66.22	17 3 39.2	-711		
	Moon I. L.	-	14 18 52.22	130.58	66.82	19 20 11.7	641		
	λ Virginis -	4	14 10 34.26			S. 12 38			
June 1	λ Virginis -	4	14 10 34.26			S. 12 38			
	Moon I. U.	11.9	14 45 14.34	133.11	67.45	21 21 47.6	-56		
	Moon I. L.	-	15 12 6.53	135.56	68.06	23 6 48.8	-48		
	ι Libræ - -	5.6	15 3 13.63			19 11			
	γ^1 Libræ - -	4.5	15 26 41.83			S. 14 15			

MOON-CULMINATING STARS. 497

At Greenwich Transit.								
Date.	Name.	Magnitude.	Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
1841.			h m s	s	s	° ' "	"	
June 2	♄ Libræ - -	5.6	15 3 13 '63			S. 19 11		
	γ Libræ - -	4.5	15 26 41 '84			14 15		
	Moon I. u.	13 '0	15 39 26 '62	137 '73	68 '59	24 33 46 '4	-387 '4	
	Moon I. L.	- -	16 7 10 '05	139 '41	69 '00	25 41 24 '9	288 '2	
	β Scorpii -	2	15 56 15 '63			19 22		
	α Scorpii -	1	16 19 43 '95			S. 26 4		
3	β Scorpii -	2	15 56 15 '63			S. 19 22		
	α Scorpii -	1	16 19 43 '96			26 4		
	Moon I. u.	14 '0	16 35 9 '96	140 '44	69 '25	26 28 47 '0	-185 '0	
	η Ophiuchi -	2.3	17 1 19 '51			15 31		
	θ Ophiuchi -	3.4	17 12 18 '82			S. 24 50		
4	η Ophiuchi -	2.3	17 1 19 '52			S. 15 31		
	θ Ophiuchi -	3.4	17 12 18 '84			24 50		
	Moon II. L.	- -	17 5 36 '27	140 '70	69 '30	26 55 17 '4	- 79 '9	
	Moon II. u.	15 '0	17 33 41 '90	140 '09	69 '16	27 0 45 '2	+ 25 '0	
	γ Sagittarii	4	17 55 39 '99			30 25		
	μ Sagittarii	3.4	18 4 19 '07			S. 21 6		
5	γ Sagittarii	4	17 55 40 '01			S. 30 25		
	μ Sagittarii	3.4	18 4 19 '09			21 6		
	Moon II. L.	- -	18 1 35 '32	138 '68	68 '81	26 45 25 '5	+127 '7	
	Moon II. u.	16 '1	18 29 7 '46	136 '56	68 '29	26 9 57 '1	226 '2	
	σ Sagittarii	3	18 45 28 '15			26 29		
	τ Sagittarii	4.5	19 0 22 '07			S. 21 16		
6	σ Sagittarii	3	18 45 28 '18			S. 26 29		
	τ Sagittarii	4.5	19 0 22 '10			21 16		
	Moon II. L.	- -	18 56 10 '64	133 '89	67 '62	25 15 19 '8	+319 '0	
	Moon II. u.	17 '1	19 22 39 '22	130 '83	66 '85	24 2 48 '2	405 '0	
	57 Sagittarii	5.6	19 43 0 '79			19 26		
	c Sagittarii	4.5	19 52 56 '14			S. 28 9		
7	57 Sagittarii	5.6	19 43 0 '81			S. 19 26		
	c Sagittarii	4.5	19 52 56 '17			28 9		
	Moon II. L.	- -	19 48 29 '84	127 '60	66 '03	22 33 48 '2	+483 '7	
	Moon II. u.	18 '1	20 13 41 '54	124 '37	65 '20	20 49 50 '2	554 '6	
	ν Capricorni	5	20 31 2 '96			18 42		
	μ Aquarii -	4.5	20 44 7 '50			S. 9 35		
8	ν Capricorni	5	20 31 2 '99			S. 18 42		
	μ Aquarii -	4.5	20 44 7 '53			9 35		
	Moon II. L.	- -	20 38 15 '41	121 '32	64 '40	18 52 27 '3	+617 '9	
	Moon II. u.	19 '2	21 2 14 '38	118 '57	63 '68	16 43 9 '7	+673 '8	
	β Aquarii -	3	21 23 13 '90			6 16		
	δ Capricorni	3.4	21 38 18 '26			S. 16 51		
9	β Aquarii -					S. 6 16		
	δ Capricorni					S. 16 51		

498 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
1841.			^h ^m ^s	^s	^s	[°] ['] ["]	["]	
June 9	Moon II. L.	- -	21 25 42 '88	116 '26	63 '06	S. 14 23 24 '5	+722 '7	
	Moon II. U.	20 '2	21 48 46 '65	114 '46	62 '58	11 54 33 '8	764 '7	
	♈ Aquarii -	4.5	22 8 28 '90			8 34		
	♊ Aquarii -	4	22 20 40 '99			S. 0 50		
10	♈ Aquarii -	4.5	22 8 28 '93			S. 8 34		
	♊ Aquarii -	4	22 20 41 '02			0 50		
	Moon II. L.	- -	22 11 32 '28	113 '25	62 '25	9 17 55 '7	+800 '7	
	Moon II. U.	21 '2	22 34 7 '27	112 '69	62 '11	S. 6 34 45 '1	830 '7	
	♊ Piscium -	5	22 55 49 '42			N. 2 58		
11	♊ Piscium -	5	22 55 49 '45			N. 2 58		
	Moon II. L.	- -	22 56 39 '71	112 '84	62 '16	S. 3 46 16 '5	+853 '7	
	Moon II. U.	22 '3	23 19 18 '30	113 '73	62 '41	S. 0 53 44 '7	870 '7	
	♈ Piscium *	4.5	23 31 48 '37			N. 4 46		
	♉ Piscium *	4.5	23 51 10 '81			N. 5 59		
12	♈ Piscium *	4.5	23 31 48 '40			N. 4 46		
	♉ Piscium *	4.5	23 51 10 '84			5 59		
	Moon II. L.	- -	23 42 12 '32	115 '41	62 '88	2 1 30 '5	+880 '7	
	Moon II. U.	23 '3	0 5 31 '50	117 '93	63 '57	4 58 2 '9	883 '7	
	♊ Piscium *	5	0 40 28 '00			N. 6 43		
13	♊ Piscium *	5	0 40 28 '03			N. 6 43		
	Moon II. L.	- -	0 29 26 '02	121 '31	64 '49	7 54 13 '5	+876 '7	
	Moon II. U.	24 '3	0 54 6 '49	125 '58	65 '63	10 48 8 '3	860 '7	
	♈ Piscium -	4	1 23 0 '59			N. 14 31		
14	♈ Piscium -	4	1 23 0 '62			N. 14 31		
	Moon II. L.	- -	1 19 43 '44	130 '73	66 '98	13 37 33 '5	+831 '7	
	Moon II. U.	25 '4	1 46 27 '14	136 '69	68 '53	16 19 51 '9	788 '7	
	♈ Arietis -	6	2 9 18 '98			19 10		
	♈ Arietis -	5.6	2 29 48 '88			N. 21 16		
15	Moon II. L.	- -	2 14 26 '62	143 '33	70 '20	N. 18 51 59 '2	+729 '7	
	Moon II. U.	26 '4	2 43 48 '89	150 '43	71 '96	21 10 25 '6	651 '7	
16	Moon II. L.	- -	3 14 37 '32	157 '63	73 '70	N. 23 11 19 '7	+553 '7	
	Moon II. U.	27 '4	3 46 50 '32	164 '43	75 '32	24 50 37 '8	435 '7	
17	Moon II. L.	- -	4 20 19 '47	170 '22	76 '68	N. 26 4 20 '5	+298 '7	
	Moon II. U.	28 '5	4 54 49 '40	174 '43	77 '65	26 48 58 '1	+145 '7	
18	Moon II. L.	- -	5 29 57 '76	176 '57	78 '14	N. 27 1 54 '0	- 17 '7	
19	Moon I. U.	0 '2	6 2 41 '77	176 '45	78 '11	N. 26 41 51 '3	-183 '7	
	Moon I. L.	- -	6 37 47 '35	174 '10	77 '56	25 49 2 '9	343 '7	
20	Moon I. U.	1 '3	7 12 12 '65	169 '85	76 '58	N. 24 25 14 '6	-491 '7	
	Moon I. L.	- -	7 45 38 '46	164 '28	75 '28	N. 22 33 25 '7	-622 '7	

MOON-CULMINATING STARS. 499

Date.	Name.	Mag- nitude.	At Greenwich Transit.				
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.	Var. of C's Dec. in 1 hour of Long.
1811. une 21	Moon I. U.	2.3	^h 8 ^m 17 ^s 52.50	157.99	73.78	N. 20 17 26.9	-733.2
	Moon I. L.	- -	8 48 49.40	151.52	72.22	17 41 36.0	821.6
22	Moon I. U.	3.3	9 18 30.14	145.35	70.71	N. 14 50 14.5	-888.5
	Moon I. L.	- -	9 47 0.02	139.76	69.32	11 47 31.3	935.5
23	α Leonis - *	4	9 32 41.24			N. 10 37	
	α Leonis - *	1	9 59 55.71			12 45	
	Moon I. U.	4.4	10 14 27.37	134.95	68.10	8 37 15.0	-964.4
	Moon I. L.	- -	10 41 2.22	131.02	67.10	5 22 49.9	977.4
	ρ Leonis - *	4	10 24 27.88			10 7	
	δ Leonis - *	5	10 52 22.76			N. 4 28	
24	ρ Leonis - *	4	10 24 27.87			N. 10 7	
	δ Leonis - *	5	10 52 22.75			4 28	
	Moon I. U.	5.4	11 6 55.38	128.00	66.32	N. 2 7 14.2	-976.4
	Moon I. L.	- -	11 32 17.75	125.88	65.76	S. 1 6 55.1	963.2
	ϵ Leonis - -	4.5	11 22 13.48			S. 2 8	
	β Virginis -	3.4	11 42 27.16			N. 2 40	
25	ϵ Leonis - -	4.5	11 22 13.48			S. 2 8	
	β Virginis -	3.4	11 42 27.15			N. 2 40	
	Moon I. U.	6.4	11 57 19.95	124.62	65.43	S. 4 17 19.6	-939.2
	Moon I. L.	- -	12 22 11.93	124.17	65.32	S. 7 21 56.1	905.4
	η Virginis -	3.4	12 11 48.55			N. 0 13	
	γ Virginis -	5.6	12 25 36.89			S. 8 34	
26	η Virginis -	3.4	12 11 48.54			N. 0 13	
	γ Virginis -	5.6	12 25 36.88			S. 8 34	
	Moon I. U.	7.5	12 47 3.05	124.46	65.39	10 18 52.6	-862.6
	Moon I. L.	- -	13 12 1.60	125.40	65.63	13 6 24.6	811.4
	53 Virginis -	5	13 3 38.90			15 20	
	α Virginis -	1	13 16 52.13			S. 10 20	
27	53 Virginis -	5	13 3 38.89			S. 15 20	
	α Virginis -	1	13 16 52.12			10 20	
	Moon I. U.	8.5	13 37 14.74	126.88	66.02	15 42 52.4	-752.0
	Moon I. L.	- -	14 2 48.35	128.78	66.50	18 6 40.1	684.7
	λ Virginis -	4	14 10 34.15			S. 12 38	
28	λ Virginis -	4	14 10 34.14			S. 12 38	
	Moon I. U.	9.5	14 28 46.63	130.96	67.05	20 16 14.8	-609.8
	Moon I. L.	- -	14 55 11.87	133.25	67.62	22 10 7.4	527.7
	20 Libræ -	3.4	14 54 50.45			24 39	
	ϵ Libræ -	5.6	15 3 13.61			S. 19 11	
29	20 Libræ -	3.4	14 54 50.44			S. 24 39	
	ϵ Libræ -	5.6	15 3 13.61			19 11	
	Moon I. U.	10.6	15 22 4.22	135.45	68.16	23 46 53.4	-438.9
	Moon I. L.	- -	15 49 21.57	137.38	68.61	S. 25 5 17.6	344.2

500 MOON-CULMINATING STARS.

At Greenwich Transit.									
Date.	Name.	Mag- nitude.	Apparent Right Ascension in Time.		Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
1841.			h	m	s	s	° ' "	"	
June 29	b Scorp̄ii -	5	15	41	29.41		S. 25 16		
	δ Scorp̄ii -	3	15	51	0.26		22 10		
30	b Scorp̄ii -	5	15	41	29.41		S. 25 16		
	δ Scorp̄ii -	3	15	51	0.26		22 10		
	Moon I. u.	11.6	16	16	59.39	138.83	68.95	26 4 16.5	-244.9
	Moon I. L.	-	16	44	51.10	139.66	69.12	26 43 3.4	142.5
	τ Scorp̄ii -	3.4	16	26	3.80			27 53	
	25 Scorp̄ii -	6	16	37	12.25			S. 25 14	
July 1	τ Scorp̄ii -	3.4	16	26	3.80			S. 27 53	
	25 Scorp̄ii -	6	16	37	12.25			25 14	
	Moon I. u.	12.6	17	12	48.42	139.75	69.10	27 1 10.8	- 38.7
	Moon I. L.	-	17	40	42.09	139.06	68.89	26 58 34.7	+ 64.5
	D Ophiuchi-	5	17	33	58.55			21 36	
	γ ² Sagittarii	4	17	55	40.40			S. 30 25	
	2 D Ophiuchi-	5	17	33	58.55			S. 21 36	
	γ ² Sagittarii	4	17	55	40.41			30 25	
	Moon I. u.	13.7	18	8	22.86	137.61	68.49	26 35 34.1	+165.1
	Moon I. L.	-	18	35	41.98	135.48	67.93	25 52 50.4	261.3
2	φ Sagittarii	4.5	18	35	47.71			27 9	
	σ Sagittarii	3	18	45	28.67			S. 26 29	
3	φ Sagittarii	4.5	18	35	47.73			S. 27 9	
	σ Sagittarii	3	18	45	28.68			26 29	
	Moon II. u.	14.7	19	4	46.73	132.70	67.23	24 51 24.7	+351.8
	h ² Sagittarii	4.5	19	27	5.99			25 14	
	57 Sagittarii	5.6	19	43	1.41			S. 19 26	
4	h ² Sagittarii	4.5	19	27	6.01			S. 25 14	
	57 Sagittarii	5.6	19	43	1.43			19 26	
	Moon II. L.	-	19	31	1.23	129.67	66.44	23 32 33.4	+435.5
	Moon II. u.	15.7	19	56	38.26	126.49	65.60	21 57 42.8	511.6
	β ² Capricorni	3.4	20	12	8.35			15 17	
	ν Capricorni	5	20	31	3.67			S. 18 42	
5	β ² Capricorni	3.4	20	12	8.37			S. 15 17	
	ν Capricorni	5	20	31	3.69			18 42	
	Moon II. L.	-	20	21	36.96	123.31	64.77	20 8 26.4	+579.8
	Moon II. u.	16.8	20	45	58.37	120.30	63.98	18 6 18.9	640.1
	σ Capricorni	5	21	7	0.40			15 50	
	β Aquarii -	3	21	23	14.63			S. 6 16	
6	σ Capricorni	5	21	7	0.42			S. 15 50	
	β Aquarii -	3	21	23	14.65			6 16	
	Moon II. L.	-	21	9	45.22	117.57	63.25	15 52 54.9	+
	Moon II. u.	17.8	21	33	1.80	115.27	62.64	13 29 45.2	+
	μ Capricorni	5	21	44	40.80			14 18	
	θ Aquarii -	4.5	22	8	29.71			S. 8 34	

MOON-CULMINATING STARS. 501

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☿'s R. A. in 1 hour of Long.	Sidereal Time of ☿'s Sem. pas. mer.	Declination.	Var. of ☿'s Dec. in 1 hour of Long.	
841. July 7	♊ Capricorni	5	h m s	"	"	° ' "	"	
	♊ Aquarii -	4.5	21 44 40 '82			S. 14 18		
	Moon II. L.	- -	22 8 29 '73			8 34		
	Moon II. U.	18 '8	21 55 53 '65	113 '45	62 '16	10 58 17 '6	+775 '7	
	♎ Aquarii -	4	22 18 26 '92	112 '19	61 '84	8 19 55 '2	806 '9	
	♎ Aquarii -	4	22 27 14 '37			0 56		
	♌ Aquarii -	4	22 44 22 '29			S. 8 25		
8	♎ Aquarii -	4	22 27 14 '40			S. 0 56		
	♌ Aquarii -	4	22 44 22 '31			8 25		
	Moon II. L.	- -	22 40 48 '80	111 '56	61 '68	5 35 59 '0	+831 '5	
	Moon II. U.	19 '9	23 3 7 '00	111 '59	61 '72	S. 2 47 45 '4	849 '7	
	♈ Piscium -	5.6	23 18 50 '02			N. 0 23		
	♈ Piscium *	4.5	23 31 49 '22			N. 4 46		
9	♈ Piscium -	5.6	23 18 50 '05			N. 0 23		
	♈ Piscium *	4.5	23 31 49 '25			4 46		
	Moon II. L.	- -	23 25 29 '77	112 '33	61 '95	0 3 26 '3	+861 '2	
	Moon II. U.	20 '9	23 48 5 '97	113 '83	62 '40	2 56 16 '5	866 '0	
	d Piscium *	5.6	0 12 28 '02			N. 7 18		
10	d Piscium *	5.6	0 12 28 '06			N. 7 18		
	Moon II. L.	- -	0 11 4 '82	116 '12	63 '05	5 49 19 '3	+863 '2	
	Moon II. U.	22 '0	0 34 36 '07	119 '23	63 '93	8 41 0 '8	852 '2	
	♈ Piscium *	4	0 54 44 '43			N. 7 2		
11	♈ Piscium *	4	0 54 44 '47			N. 7 2		
	Moon II. L.	- -	0 58 49 '75	123 '19	65 '01	11 29 35 '4	+831 '9	
	Moon II. U.	23 '0	1 23 56 '06	128 '00	66 '31	14 13 1 '8	800 '6	
	♈ Arietis -	3	1 45 54 '40			N.20 2		
12	♈ Arietis -	3	1 45 54 '43			N.20 2		
	Moon II. L.	- -	1 50 4 '94	133 '61	67 '79	16 48 58 '7	+756 '6	
	Moon II. U.	24 '0	2 17 25 '37	139 '92	69 '41	19 14 42 '7	698 '1	
	♈ Arietis -	5.6	2 29 49 '78			21 16		
	♈ Arietis -	4	3 2 34 '72			N.19 7		
13	♈ Arietis -	5.6	2 29 49 '81			N.21 16		
	♈ Arietis -	4	3 2 34 '75			19 7		
	Moon II. L.	- -	2 46 4 '93	146 '75	71 '14	21 27 7 '5	+623 '1	
	Moon II. U.	25 '0	3 16 8 '04	153 '78	72 '87	23 22 44 '9	530 '0	
	♈ Tauri -	3	3 38 4 '62			23 37		
	♈ Tauri -	5	3 55 20 '01			N.21 39		
14			47 34 '85	160 '62	74 '52	N.24 57 51 '8	+418 '0	
			20 19 '93	166 '72	75 '96	26 8 43 '7	287 '6	
15				171 '53	77 '08	N.26 51 52 '0	+141 '3	
				174 '54	77 '76	27 4 28 '5	- 16 '7	
16				42	77 '96	N.26 44 50 '3	-180 '1	

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☿'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☿'s R. A. in 1 hour of Long.	Sidereal Time of ☿'s Sem. pas. mer.	Declination.		
1841. July 16	Moon II. U.	28 '1	^h 6 ^m 38 ^s 51 '24	^s 174 '14	^s 77 '65	N. 25 52 34 '5	— 341 '6	
17	Moon II. L.	- -	7 13 23 '37	170 '92	76 '89	N. 24 28 47 '2	— 494 '1	
18	Moon II. U.	29 '2	7 47 7 '57	166 '25	75 '79	N. 22 35 56 '0	— 631 '4	
	Moon I. L.	- -	8 17 20 '48	160 '88	74 '46	20 17 31 '4	749 '1	
19	Moon I. U.	0 '9	8 48 55 '43	154 '93	73 '02	N. 17 37 44 '7	— 844 '9	
	Moon I. L.	- -	9 19 19 '09	149 '08	71 '60	14 41 4 '0	918 '1	
20	Moon I. U.	2 '0	9 48 34 '93	143 '67	70 '28	N. 11 31 57 '6	— 969 '4	
	Moon I. L.	- -	10 16 49 '68	138 '93	69 '09	8 14 39 '6	1000 '4	
21	Moon I. U.	3 '0	10 44 12 '31	134 '99	68 '11	N. 4 53 1 '2	— 1013 '1	
	Moon I. L.	- -	11 10 52 '77	131 '91	67 '33	1 30 30 '9	1009 '5	
22	χ Leonis - *	4.5	10 56 50 '40			N. 8 12		
	τ Leonis - -	4	11 19 47 '46			N. 3 44		
	Moon I. U.	4 '0	11 37 1 '50	129 '69	66 '77	S. 1 49 50 '0	— 991 '8	
	Moon I. L.	- -	12 2 48 '63	128 '30	66 '43	S. 5 5 21 '7	961 '6	
	η Virginis -	3.4	12 11 48 '31			N. 0 13		
23	η Virginis -	3.4	12 11 48 '30			N. 0 13		
	Moon I. U.	5 '1	12 28 23 '89	127 '70	66 '30	S. 8 13 44 '9	— 920 '5	
	Moon I. L.	- -	12 53 56 '21	127 '80	66 '34	11 12 55 '5	869 '8	
	ψ Virginis -	5.6	12 46 7 '77			8 40		
	53 Virginis -	5	13 3 38 '62			S. 15 20		
24	ψ Virginis -	5.6	12 46 7 '77			S. 8 40		
	53 Virginis -	5	13 3 38 '61			15 20		
	Moon I. U.	6 '1	13 19 33 '43	128 '51	66 '54	14 1 3 '8	— 810 '2	
	Moon I. L.	- -	13 45 22 '38	129 '72	66 '86	16 36 29 '0	742 '7	
	α Virginis -	5.6	13 41 16 '92			17 20		
	κ Virginis -	4	14 4 28 '10			S. 9 32		
25	α Virginis -	5.6	13 41 16 '91			S. 17 20		
	κ Virginis -	4	14 4 28 '09			9 32		
	Moon I. U.	7 '1	14 11 28 '19	131 '30	67 '28	18 57 39 '0	— 667 '8	
	Moon I. L.	- -	14 37 54 '51	133 '11	67 '75	21 3 8 '3	586 '0	
	α ² Libræ -	3	14 42 8 '58			15 23		
	20 Libræ -	3.4	14 54 50 '21			S. 24 39		
26	α ² Libræ -	3	14 42 8 '56			S. 15 23		
	20 Libræ -	3.4	14 54 50 '20			24 39		
	Moon I. U.	8 '2	15 4 43 '05	134 '97	68 '22	22 51 38 '9	— 498	
	Moon I. L.	- -	15 31 53 '36	136 '71	68 '64	24 21 59 '4	— 404	
	b ScorpII -	5	15 41 29 '23			25 16		
	π ScorpII -	3.4	15 49 18 '39			S. 25 39		
27	b ScorpII -	5	15 41 29 '22			S. 25 16		

MOON-CULMINATING STARS. 503

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☿'s R. A. in 1 hour of Long.	Sidereal Time of ☿'s Sem. pas. mer.	Declination.	Var. of ☿'s Dec. in 1 hour of Long.	
1841.			h m s	s	s	° ' "	"	
July 27	π Scorpii -	3.4	15 49 18.38			S. 25 39		
	Moon I. U.	9.2	15 59 22.87	138.14	68.98	25 33 10.5	-306.6	
	Moon I. L.	-	16 27 6.93	139.11	69.18	26 24 25.7	205.5	
	σ Scorpii -	4	16 11 35.88			25 12		
	α Scorpii -	1	16 19 43.99			S. 26 4		
28	σ Scorpii -	4	16 11 35.87			S. 25 12		
	α Scorpii -	1	16 19 43.98			26 4		
	Moon I. U.	10.2	16 54 59.08	139.47	69.24	26 55 14.2	-102.4	
	Moon I. L.	-	17 22 51.63	139.16	69.11	27 5 23.2	+ 0.8	
	θ Ophiuchi -	3.4	17 12 19.09			24 50		
	3 Sagittarii	5	17 37 37.62			S. 27 46		
29	θ Ophiuchi -	3.4	17 12 19.09			S. 24 50		
	3 Sagittarii	5	17 37 37.61			27 46		
	Moon I. U.	11.3	17 50 36.23	138.15	68.81	26 55 1.0	+102.5	
	Moon I. L.	-	18 18 4.66	136.48	68.33	26 24 35.6	201.1	
	μ ¹ Sagittarii	3.4	18 4 19.57			21 6		
	λ Sagittarii	4	18 18 13.99			S. 25 30		
30	μ ¹ Sagittarii	3.4	18 4 19.57			S. 21 6		
	λ Sagittarii	4	18 18 13.99			25 30		
	Moon I. U.	12.3	18 45 9.51	134.24	67.70	25 34 53.7	+295.0	
	Moon I. L.	-	19 11 44.73	131.57	66.96	24 26 58.8	383.1	
	π Sagittarii	4.5	19 0 22.84			21 16		
	h ² Sagittarii	4.5	19 27 6.28			S. 25 14		
31	π Sagittarii	4.5	19 0 22.84			S. 21 16		
	h ² Sagittarii	4.5	19 27 6.28			25 14		
	Moon I. U.	13.3	19 37 46.09	128.63	66.16	23 2 7.2	+464.3	
	Moon I. L.	-	20 3 11.30	125.57	65.33	21 21 44.5	538.2	
	c Sagittarii	4.5	19 52 57.19			28 9		
	β ² Capricorni	3.4	20 12 8.72			S. 15 17		
Aug. 1	c Sagittarii	4.5	19 52 57.19			S. 28 9		
	β ² Capricorni	3.4	20 12 8.72			15 17		
	Moon I. U.	14.4	20 28 0.00	122.56	64.50	19 27 21.5	+604.3	
	μ Aquarii -	4.5	20 44 8.64			9 35		
	ν Aquarii -	5	21 0 59.95			S. 12 1		
2	μ Aquarii -	4.5	20 44 8.65			S. 9 35		
	ν Aquarii -	5	21 0 59.96			12 1		
	Moon II. L.	-	20 54 20.95	119.61	63.72	17 20 32.2	+662.6	
	Moon II. U.	15.4	21 18 0.73	117.08	63.03	15 2 50.8	713.1	
	γ Capricorni	4	21 31 20.75			17 23		
	μ Capricorni	5	21 44 41.36			S. 14 18		
			21 31 20.76			S. 17 23		
			21 44 41.38			14 18		
			21 12 57	114.96	62.45	S. 12 35 49.3	+755.9	

504 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.				
			Apparent Right Ascension in Time.	Var. of Q's R. A. in 1 hour of Long.	Sidereal Time of Q's Sem. pas. mer.	Declination.	Var. of Q's Dec. in 1 hour of Long.
1841. Aug. 3	Moon II. u.	16.4	^h 22 ^m 4 ^s 1.61	^s 113.30	^s 62.00	[°] S. 10 ['] 0 58 ["] 1	["] +791.4
	γ Aquarii -	4	22 13 30.36			2 11	
	η Aquarii -	4	22 27 14.99			S. 0 56	
4	γ Aquarii -	4	22 13 30.37			S. 2 11	
	η Aquarii -	4	22 27 15.01			0 56	
	Moon II. L.	-	22 26 33.89	112.17	61.70	7 19 45.8	+819.5
	Moon II. u.	17.5	22 48 56.07	111.63	61.57	S. 4 33 38.1	840.6
	γ Piscium -	4.5	23 8 59.20			N. 2 25	
5	γ Piscium -	4.5	23 8 59.22			N. 2 25	
	Moon II. L.	-	23 11 15.40	111.70	61.62	S. 1 43 59.9	+854.6
	Moon II. u.	18.5	23 33 39.57	112.44	61.86	N. 1 7 43.8	861.4
	ω Piscium *	4.5	23 51 12.45			N. 5 59	
6	ω Piscium *	4.5	23 51 12.47			N. 5 59	
	Moon II. L.	-	23 56 16.70	113.87	62.29	4 0 4.9	+860.8
	Moon II. u.	19.5	0 19 15.37	116.03	62.93	6 51 32.1	852.4
	δ Piscium *	5	0 40 29.70			6 43	
	ε Piscium *	4	0 54 45.25			N. 7 2	
7	δ Piscium *	5	0 40 29.73			N. 6 43	
	ε Piscium *	4	0 54 45.28			7 2	
	Moon II. L.	-	0 42 44.35	118.93	63.76	9 40 27.2	+835.4
	Moon II. u.	20.6	1 6 52.71	122.59	64.78	12 25 2.9	808.9
	η Piscium -	4	1 23 2.36			14 31	
	γ Arietis -	4.5	1 44 52.12			N. 18 31	
8	η Piscium -	4	1 23 2.38			N. 14 31	
	γ Arietis -	4.5	1 44 52.15			18 31	
	Moon II. L.	-	1 31 49.49	127.00	66.00	15 3 19.4	+772.0
	Moon II. u.	21.6	1 57 43.35	132.10	67.36	17 33 3.5	723.2
	ν Arietis -	5.6	2 29 50.68			21 16	
	π Arietis -	5	2 40 28.83			N. 16 48	
9	ν Arietis -	5.6	2 29 50.71			N. 21 16	
	π Arietis -	5	2 40 28.86			16 48	
	Moon II. L.	-	2 24 42.13	137.79	68.87	19 51 43.8	+661.2
	Moon II. u.	22.6	2 52 51.99	143.91	70.43	21 56 32.9	584.5
	g Arietis -	5.6	3 14 58.63			24 9	
	η Tauri -	3	3 38 5.51			N. 23 36	
10	g Arietis -	5.6	3 14 58.66			N. 24 9	
	η Tauri -	3	3 38 5.54			23 36	
	Moon II. L.	-	3 22 16.60	150.20	72.02	23 44 28.8	+492.1
	Moon II. u.	23.7	3 52 55.94	156.30	73.51	25 12 18.9	+383.5
	υ ¹ Tauri -	5	4 16 50.40			22 27	
	τ Tauri -	5	4 32 45.11			N. 22 39	
11	υ ¹ Tauri -	5	4 16 50.43			N. 22 27	

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
1841. Aug. 11	τ Tauri - -	5	^h 4 ^m 32 ^s 45 ·14	^s	^s	N. 22 39		
	Moon II. L. - -	-	4 24 45 ·32	161 ·79	74 ·83	26 16 50 ·6	+ 259 ·2	
	Moon II. U. 24 ·7		4 57 34 ·69	166 ·21	75 ·88	26 55 5 ·6	+ 121 ·2	
	β Tauri - -	2	5 16 17 ·32			28 28		
	C Tauri - -	4.5	5 43 22 ·58			N. 27 34		
12	Moon II. L. - -	-	5 31 8 ·64	169 ·16	76 ·56	N. 27 4 37 ·4	- 27 ·3	
	Moon II. U. 25 ·7		6 5 7 ·79	170 ·37	76 ·83	26 43 49 ·3	181 ·2	
13	Moon II. L. - -	-	6 39 10 ·45	169 ·76	76 ·66	N. 25 52 8 ·7	- 335 ·0	
	Moon II. U. 26 ·8		7 12 55 ·62	167 ·50	76 ·11	24 30 14 ·3	482 ·5	
14	Moon II. L. - -	-	7 46 5 ·29	163 ·92	75 ·23	N. 22 39 56 ·1	- 618 ·2	
	Moon II. U. 27 ·8		8 18 26 ·13	159 ·45	74 ·14	20 24 2 ·0	737 ·8	
15	Moon II. L. - -	-	8 49 50 ·35	154 ·56	72 ·94	N. 17 46 5 ·4	- 838 ·2	
	Moon II. U. 28 ·9		9 20 15 ·51	149 ·66	71 ·73	14 50 6 ·6	918 ·0	
16	Moon I. L. - -	-	9 47 22 ·30	145 ·26	70 ·58	N. 11 40 18 ·1	- 976 ·6	
17	Moon I. U. 0 ·6		10 16 0 ·28	141 ·18	69 ·56	N. 8 20 51 ·0	- 1014 ·5	
	Moon I. L. - -	-	10 43 53 ·26	137 ·78	68 ·71	4 55 47 ·2	1033 ·0	
18	Moon I. U. 1 ·7		11 11 9 ·84	135 ·12	68 ·06	N. 1 28 50 ·9	- 1033 ·5	
	Moon I. L. - -	-	11 36 57 ·15	133 ·23	67 ·60	S. 1 56 30 ·9	1017 ·6	
19	Moon I. U. 2 ·7		12 4 30 ·33	132 ·09	67 ·33	S. 5 17 13 ·1	- 987 ·1	
	Moon I. L. - -	-	12 30 52 ·10	131 ·65	67 ·25	8 30 29 ·9	943 ·6	
20	Moon I. U. 3 ·7		12 57 12 ·48	131 ·84	67 ·32	S. 11 33 54 ·0	- 888 ·6	
	Moon I. L. - -	-	13 23 38 ·37	132 ·56	67 ·55	14 25 15 ·8	823 ·4	
21	α Virginis -	1	13 16 51 ·57			S. 10 20		
	O Virginis -	6	13 37 30 ·37			11 38		
	Moon I. U. 4 ·8		13 50 15 ·48	133 ·69	67 ·87	17 2 40 ·0	- 749 ·2	
	Moon I. L. - -	-	14 17 7 ·96	135 ·09	68 ·26	19 24 23 ·6	666 ·9	
	λ Virginis -	4	14 10 33 ·56			S. 12 38		
22	λ Virginis -	4	14 10 33 ·55			S. 12 38		
	Moon I. U. 5 ·8		14 44 18 ·18	136 ·61	68 ·67	21 28 58 ·9	- 577 ·9	
	Moon I. L. - -	-	15 11 46 ·52	138 ·09	69 ·06	23 15 9 ·5	483 ·0	
	20 Libræ - -	3.4	14 54 49 ·82			24 39		
	♄ Libræ - -	5.6	15 3 13 ·02			S. 19 11		
23	20 Libræ		54 49 ·81			S. 24 39		
	♄ Libræ		13 ·01			19 11		
	Mc		42	139 ·34	69 ·38	24 41 52 ·2	- 383 ·5	
	Mc		8	140 ·21	69 ·59	25 48 19 ·3	- 280 ·6	
	β ¹ Sco					19 22		
	α Sco,					S. 26 4		

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. ☾'s D in 1 h of Lon.	
1841. Aug. 24	β ¹ Scorpii -	2	^h 15 ^m 56 ^s 15.20	"	"	S. 19 22	"	"
	α Scorpii -	1	16 19 43.62			26 4		
	Moon I. v.	7.9	16 35 34.40	140.56	69.67	26 33 59.4		-175
	Moon I. L.	-	17 3 40.36	140.32	69.58	26 58 39.1		-70
	A Ophiuchi -	4.5	17 5 38.57			26 22		
	θ Ophiuchi -	3.4	17 12 18.79			S. 24 50		
25	A Ophiuchi -	4.5	17 5 38.55			S. 26 22		
	θ Ophiuchi -	3.4	17 12 18.78			24 50		
	Moon I. v.	8.9	17 31 39.49	139.43	69.32	27 2 23.5		+33
	Moon I. L.	-	17 59 24.13	137.91	68.89	26 45 36.8		134
	γ ² Sagittarii	4	17 55 40.22			30 25		
	δ Sagittarii	3.4	18 10 53.29			S. 29 53		
26	γ ² Sagittarii	4	17 55 40.20			S. 30 25		
	δ Sagittarii	3.4	18 10 53.28			29 53		
	Moon I. v.	9.9	18 26 47.13	135.84	68.32	26 9 0.5		+231
	Moon I. L.	-	18 53 42.59	133.34	67.62	25 13 31.6		322
	σ Sagittarii	3	18 45 28.71			26 29		
	π Sagittarii	4.5	19 0 22.72			S. 21 16		
27	σ Sagittarii	3	18 45 28.70			S. 26 29		
	π Sagittarii	4.5	19 0 22.71			21 16		
	Moon I. v.	11.0	19 20 6.03	130.53	66.84	24 0 18.1		+408
	Moon I. L.	-	19 45 54.74	127.57	66.01	22 30 38.7		487
	57 Sagittarii	5.6	19 43 1.70			S. 19 26		
28	57 Sagittarii	5.6	19 43 1.69			S. 19 26		
	Moon I. v.	12.0	20 11 7.79	124.61	65.17	20 45 57.2		+558
	Moon I. L.	-	20 35 45.93	121.78	64.37	18 47 41.9		622
	ν Capricorni	5	20 31 4.17			18 42		
	ε Aquarii -	4.5	20 39 8.23			S. 10 4		
29	ν Capricorni	5	20 31 4.17			S. 18 42		
	ε Aquarii -	4.5	20 39 8.23			10 4		
	Moon I. v.	13.0	20 59 51.43	119.19	63.63	16 37 21.5		+679
	Moon I. L.	-	21 23 27.78	116.94	62.99	14 16 25.8		728
	ι Capricorni	5	21 13 27.68			17 30		
	β Aquarii -	3	21 23 15.34			S. 6 16		
30	ι Capricorni	5	21 13 27.68			S. 17 30		
	β Aquarii -	3	21 23 15.34			6 16		
	Moon I. v.	14.1	21 46 39.55	115.10	62.45	11 46 24.0		+770
	Moon I. L.	-	22 9 32.01	113.73	62.06	9 8 44.9		800
	θ Aquarii -	4.5	22 8 30.61					
	ζ Aquarii -	4	22 20 42.73			S. 1		
31	θ Aquarii -	4.5	22 8 30.61			S. 1		
	ζ Aquarii -	4	22 20 42.74					
	Moon I. v.	15.1	22 32 11.18	112.89	61.83	S. 1		

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
			h m s	s	s	° ' "	"	
41.								
g. 31	λ Aquarii -	4	22 44 23 '33			S. 8 25		
	β Piscium -	5	22 55 51 '32			N. 2 58		
pt. 1								
	λ Aquarii -	4	22 44 23 '34			S. 8 25		
	β Piscium -	5	22 55 51 '33			N. 2 58		
	Moon II. L. -	-	22 56 47 '11	112 '62	61 '76	S. 3 36 29 '3	+851 '5	
	Moon II. U. 16 '1		23 19 19 '97	112 '96	61 '87	S. 0 44 52 '7	863 '4	
	ε Piscium *	4.5	23 31 50 '41			N. 4 46		
	ω Piscium *	4.5	23 51 12 '96			N. 5 59		
2								
	ε Piscium *	4.5	23 31 50 '42			N. 4 46		
	ω Piscium *	4.5	23 51 12 '97			5 59		
	Moon II. L. -	-	23 42 0 '74	113 '94	62 '16	2 8 20 '1	+867 '4	
	Moon II. U. 17 '2		0 4 57 '09	115 '56	62 '64	5 1 32 '0	863 '1	
	δ Piscium *	5	0 40 30 '31			N. 6 43		
3								
	δ Piscium *	5	0 40 30 '32			N. 6 43		
	Moon II. L. -	-	0 28 16 '83	117 '85	63 '29	7 53 0 '1	+850 '1	
	Moon II. U. 18 '2		0 52 8 '07	120 '80	64 '13	10 40 55 '3	827 '5	
	η Piscium -	4	1 23 3 '05			N. 14 31		
4								
	η Piscium -	4	1 23 3 '07			N. 14 31		
	Moon II. L. -	-	1 16 38 '71	124 '41	65 '16	13 23 19 '5	+794 '8	
	Moon II. U. 19 '2		1 41 56 '44	128 '64	66 '32	15 58 4 '7	750 '8	
	θ ¹ Arietis -	6	2 9 21 '54			19 10		
	ψ Arietis -	6	2 22 9 '34			N. 17 0		
5								
	θ ¹ Arietis -	6	2 9 21 '57			N. 19 10		
	ψ Arietis -	6	2 22 9 '37			17 0		
	Moon II. L. -	-	2 8 8 '26	133 '41	67 '61	18 22 51 '0	+694 '8	
	Moon II. U. 20 '3		2 35 19 '96	138 '60	68 '99	20 35 8 '5	625 '8	
	ε Arietis -	5	2 50 11 '75			20 42		
	δ Arietis -	4	3 2 36 '48			N. 19 7		
6								
	ε Arietis -	5	2 50 11 '78			N. 20 42		
	δ Arietis -	4	3 2 36 '50			19 7		
	Moon II. L. -	-	3 3 35 '47	144 '01	70 '40	22 32 16 '5	+543 '1	
	Moon II. U. 21 '3		3 32 55 '94	149 '38	71 '76	24 11 27 '3	446 '3	
	Α ¹ Tauri -	5	3 55 21 '80			21 39		
	υ ¹ Tauri -	5	4 16 51 '28			N. 22 27		
7								
	Α ¹ Tauri -	5	3 55 21 '83			N. 21 39		
	υ ¹ Tauri -	5	4 16 51 '31			22 27		
	Moon II. L. -	-	4 3 19 '16	154 '41	73 '01	25 29 54 '1	+335 '8	
			4 34 38 '86	158 '73	74 '08	26 24 57 '6	+212 '7	
			5 16 18 '23			28 28		
			5 28 29 '05			N. 30 23		
			5 18 '26			N. 28 28		
			9 '08			N. 30 23		

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ζ 's ℓ in 1 of ℓ
			Apparent Right Ascension in Time.	Var. of ζ 's R. A. in 1 hour of Long.	Sidereal Time of ζ 's Sem. pas. mer.	Declination.		
1841. Sept. 8	Moon II. L.	- -	^h 5 ^m 6 ^s 44.41	162.00	74.86	N. 26 54 19.0	+	
	Moon II. v.	23.4	5 39 21.57	163.95	75.33	26 56 13.1	-	
	μ Geminor.	3	6 13 23.54			22 35		
	ϵ Geminor.	3	6 34 11.94			N. 25 17		
9	μ Geminor.	3	6 13 23.57			N. 22 35		
	ϵ Geminor.	3	6 34 11.98			25 17		
	Moon II. L.	- -	6 12 13.46	164.44	75.44	26 29 38.6	- 2	
	Moon II. v.	24.4	6 45 2.45	163.49	75.18	25 34 27.2	3	
	δ Geminor.	3.4	7 10 40.25			22 16		
	β Geminor.	2	7 35 37.57			N. 28 24		
10	δ Geminor.	3.4	7 10 40.28			N. 22 16		
	β Geminor.	2	7 35 37.60			28 24		
	Moon II. L.	- -	7 17 32.29	161.28	74.63	24 11 26.1	- 4	
	Moon II. v.	25.4	7 49 29.45	158.11	73.83	22 22 13.6	6	
	θ Cancri - -	5.6	8 22 33.82			18 38		
	δ Cancri - -	4.5	8 35 40.88			N. 18 44		
11	Moon II. L.	- -	8 20 44.46	154.32	72.88	N. 20 9 12.7	- 7	
	Moon II. v.	26.5	8 51 12.23	150.30	71.85	17 35 20.8	8	
12	Moon II. L.	- -	9 20 51.80	146.34	70.84	N. 14 43 57.5	- 8	
	Moon II. v.	27.5	9 49 45.60	142.70	69.90	11 38 35.9	9	
13	Moon II. L.	- -	10 17 58.66	139.57	69.08	N. 8 22 56.3	- 9	
	Moon II. v.	28.6	10 45 37.79	137.06	68.42	5 0 37.4	10	
14	Moon II. L.	- -	11 12 50.90	135.24	67.94	N. 1 35 12.1	- 10	
15	Moon I. v.	0.2	11 37 30.91	134.13	67.64	S. 1 49 55.0	- 10	
	Moon I. L.	- -	12 4 16.90	133.64	67.54	5 11 29.2	9	
16	Moon I. v.	1.2	12 31 0.86	133.78	67.60	S. 8 26 30.0	- 9	
	Moon I. L.	- -	12 57 49.78	134.46	67.80	11 32 8.8	9	
17	Moon I. v.	2.3	13 24 49.69	135.58	68.13	S. 14 25 53.2	- 8	
	Moon I. L.	- -	13 52 5.00	137.01	68.54	17 5 24.5	7	
18	Moon I. v.	3.3	14 19 38.60	138.60	68.98	S. 19 28 41.1	- 6	
	Moon I. L.	- -	14 47 31.29	140.17	69.42	21 33 58.0	5	
19	α^* Libræ - -	3	14 42 7.88			S. 15 23		
20	Libræ - -	3.4	14 54 49.44			24 39		
	Moon I. v.	4.4	15 15 41.80	141.54	69.79	23 19 47		
	Moon I. L.	- -	15 44 6.73	142.54	70.08	24 45 4		
	π Scorpïi -	3.4	15 49 17.58			25 39		
	β^1 Scorpïi -	2	15 56 14.82			S. 19 22		
20	π Scorpïi -	3.4	15 49 17.56			S. 25 39		

No.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of C's Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.		
41.			h m s	s	s	° ' "	"	
t. 20	β^1 Scorpii -	2	15 56 14.80			S. 19 22		
	Moon I. v.	5.4	16 12 40.69	143.02	70.22	25 49 0.6	-265.6	
	Moon I. L.	-	16 41 16.81	142.88	70.19	26 31 14.2	156.7	
	τ Scorpii -	3.4	16 26 2.85			27 53		
	η Ophiuchi -	2.3	17 1 18.98			S. 15 31		
21	τ Scorpii -	3.4	16 26 2.83			S. 27 53		
	η Ophiuchi -	2.3	17 1 18.97			15 31		
	Moon I. v.	6.5	17 9 47.13	142.06	69.99	26 51 44.3	-48.6	
	Moon I. L.	-	17 38 3.55	140.57	69.61	26 50 51.3	+56.9	
	D Ophiuchi -	5	17 33 57.86			21 36		
	γ^2 Sagittarii	4	17 55 39.75			S. 30 25		
22	D Ophiuchi -	5	17 33 57.84			S. 21 36		
	γ^2 Sagittarii	4	17 55 39.73			30 25		
	Moon I. v.	7.5	18 5 58.37	138.48	69.05	26 29 16.1	+158.2	
	Moon I. L.	-	18 33 25.04	135.90	68.38	25 47 55.6	254.2	
	λ Sagittarii	4	18 18 13.35			25 30		
	σ Sagittarii	3	18 45 28.30			S. 26 29		
23	λ Sagittarii	4	18 18 13.33			S. 25 30		
	σ Sagittarii	3	18 45 28.28			26 29		
	Moon I. v.	8.6	19 0 18.57	132.98	67.59	24 47 59.7	+344.0	
	Moon I. L.	-	19 26 35.79	129.88	66.75	23 30 46.7	427.0	
	ρ^1 Sagittarii	5	19 12 30.92			18 8		
	h^2 Sagittarii	4.5	19 27 5.86			S. 25 14		
24	ρ^1 Sagittarii	5	19 12 30.90			S. 18 8		
	h^2 Sagittarii	4.5	19 27 5.84			25 14		
	Moon I. v.	9.6	19 52 15.50	126.75	65.89	21 57 40.0	+502.9	
	Moon I. L.	-	20 17 18.22	123.73	65.04	20 10 5.5	571.6	
	β^2 Capricorni	3.4	20 12 8.48			15 17		
	ν Capricorni	5	20 31 3.94			S. 18 42		
25	β^2 Capricorni	3.4	20 12 8.46			S. 15 17		
	ν Capricorni	5	20 31 3.93			18 42		
	Moon I. v.	10.6	20 41 46.03	120.95	64.25	18 9 29.3	+633.2	
	Moon I. L.	-	21 5 42.45	118.51	63.54	15 57 16.4	687.8	
	ν Aquarii -	5	21 0 59.92			12 1		
	ϵ Capricorni	5	21 13 27.53			S. 17 30		
26	ν Aquarii -	5	21 0 59.91			S. 12 1		
	ϵ Capricorni	5	21 13 27.52			17 30		
	Moon I. v.	11.6	21 29 12.00	116.48	62.95	13 34 50.8	+735.4	
			21 52 19.98	114.93	62.49	11 3 34.3	+776.2	
			14 41.53			14 18		
			55.07			S. 14 38		
						S. 14 18		
						S. 14 38		

510 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of Q's R. A. in 1 hour of Long.	Sidereal Time of Q's Sem. pas. mer.	Declination.	V. in of	
1841.			h m s	s	s	° ' "		
Sept. 27	Moon I. v.	12.7	22 15 12.52	113.91	62.17	S. 8 24 50.6	+8	
	Moon I. L.	-	22 37 56.15	113.46	62.02	5 40 2.3	8	
	η Aquarii -	4	22 27 15.33			0 56		
	λ Aquarii -	4	22 44 23.39			S. 8 25		
28	η Aquarii -	4	22 27 15.33			S. 0 56		
	λ Aquarii -	4	22 44 23.38			8 25		
	Moon I. v.	13.7	23 0 37.81	113.59	62.03	S. 2 50 35.8	+8	
	Moon I. L.	-	23 23 24.75	114.34	62.23	N. 0 1 58.3	8	
	κ ¹ Piscium -	5.6	23 18 51.31			0 23		
	ε Piscium *	4.5	23 31 50.59			N. 4 46		
29	κ ¹ Piscium -	5.6	23 18 51.31			N. 0 23		
	ε Piscium *	4.5	23 31 50.59			4 46		
	Moon I. v.	14.7	23 46 24.54	115.73	62.62	2 56 5.5	+8	
	Moon I. L.	-	0 9 44.92	117.77	63.18	5 50 1.2	8	
	d Piscium *	5.6	0 12 29.65			N. 7 18		
30	d Piscium *	5.6	0 12 29.65			N. 7 18		
	Moon II. v.	15.8	0 35 41.48	120.59	63.93	8 41 54.8	+8	
	ε Piscium *	4	0 54 46.28			N. 7 2		
Oct. 1	ε Piscium *	4	0 54 46.29			N. 7 2		
	Moon II. L.	-	1 0 8.06	123.94	64.86	11 29 44.0	+8	
	Moon II. v.	16.8	1 25 18.49	127.89	65.93	14 11 14.7	7	
	β Arietis -	3	1 45 56.58			N.20 2		
2	β Arietis -	3	1 45 56.60			N.20 2		
	Moon II. L.	-	1 51 19.43	132.35	67.14	16 44 3.9	+7	
	Moon II. v.	17.8	2 18 16.39	137.20	68.44	19 5 35.2	6	
	ε Arietis -	5	2 50 12.42			20 42		
	δ Arietis -	4	3 2 37.17			N.19 7		
3	ε Arietis -	5	2 50 12.44			N.20 42		
	δ Arietis -	4	3 2 37.19			19 7		
	Moon II. L.	-	2 46 13.14	142.28	69.77	21 13 5.7	+5	
	Moon II. v.	18.9	3 15 10.98	147.34	71.10	23 3 45.6	5	
	η Tauri -	3	3 38 7.20			23 37		
	A ¹ Tauri -	5	3 55 22.59			N.21 39		
4	η Tauri -	3	3 38 7.22			N.23 37		
	A ¹ Tauri -	5	3 55 22.61			21 39		
	Moon II. L.	-	3 45 7.90	152.08	72.31	24 34 48.8	+4	
	Moon II. v.	19.9	4 15 58.26	156.18	73.36	25 43 37.7	2	
	τ Tauri -	5	4 32 46.87			22 39		
	ε Tauri -	4.5	4 53 40.06			N.21 21		
5	τ Tauri -	5	4 32 46.90			N.22 39		
	ε Tauri -	4.5	4 53 40.09			21 21		
	Moon II. L.	-	4 47 32.36	159.32	74.15	N.26 27 56.4		

MOON-CULMINATING STARS. 511

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of C's Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.		
41.			^h ^m ^s	^s	^s	[°] ['] ["]	["]	
5	Moon II. U.	20.9	5 19 37.05	161.23	74.64	N. 26.46 0.8	+ 22.7	
	C Tauri - -	4.5	5 43 24.41			27 34		
	μ Geminor.	3	6 13 24.41			N. 22 35		
6	C Tauri - -	4.5	5 43 24.45			N. 27 34		
	μ Geminor.	3	6 13 24.45			22 35		
	Moon II. L.	- -	5 51 56.61	161.79	74.78	26 36 47.8	-115.1	
	Moon II. U.	22.0	6 24 14.53	160.97	74.59	26 0 2.5	252.0	
	ε Geminor.	3	6 34 12.87			25 17		
	δ Geminor.	3.4	7 10 41.09			N. 22 16		
7	ε Geminor.	3	6 34 12.90			N. 25 17		
	δ Geminor.	3.4	7 10 41.13			22 16		
	Moon II. L.	- -	6 56 15.16	158.94	74.09	24 56 19.6	-384.0	
	Moon II. U.	23.0	7 27 45.24	155.95	73.36	23 26 59.5	507.6	
	φ Geminor.	5	7 43 49.25			27 10		
	ζ Cancri - -	6	8 3 8.22			N. 18 7		
8	φ Geminor.	5	7 43 49.29			N. 27 10		
	ζ Cancri - -	6	8 3 8.25			18 7		
	Moon II. L.	- -	7 58 35.46	152.34	72.45	21 34 1.0	-620.0	
	Moon II. U.	24.1	8 28 40.19	148.44	71.45	19 19 50.7	719.3	
	α ^s Cancri - *	5	8 49 49.97			12 28		
	ξ Cancri - -	5.6	9 0 15.48			N. 22 41		
9	α ^s Cancri - *	5	8 49 50.00			N. 12 28		
	ξ Cancri - -	5.6	9 0 15.51			22 41		
	Moon II. L.	- -	8 57 57.99	144.56	70.44	16 47 15.7	-804.0	
	Moon II. U.	25.1	9 26 30.73	140.96	69.48	13 59 14.6	873.6	
	π Leonis - *	4.5	9 51 51.03			8 48		
	α Leonis - *	1	9 59 56.58			N. 12 45		
10	Moon II. L.	- -	9 54 22.94	137.83	68.64	N. 10 58 50.2	-927.9	
	Moon II. U.	26.1	10 21 41.08	135.30	67.96	7 49 7.7	966.6	
11	Moon II. L.	- -	10 48 32.81	133.44	67.43	N. 4 33 11.9	-990.1	
	Moon II. U.	27.2	11 15 6.50	132.29	67.10	N. 1 14 4.5	998.6	
12	Moon II. L.	- -	11 41 30.60	131.84	66.95	S. 2 5 14.6	-992.2	
	Moon II. U.	28.2	12 7 53.42	132.07	66.98	5 21 50.4	971.3	
13	Moon II. L.	- -	12 34 22.74	132.91	67.19	S. 8 32 49.7	-936.3	
	Moon II. U.	29.2	13 1 5.34	134.27	67.54	11 35 26.7	887.7	
14	Moon I. L.	- -	13 25 50.86	135.95	67.99	S. 14 27 2.7	-826.2	
15	Moor I		53 14.18	137.97	68.53	S. 17 5 7.4	-752.6	
	Moc		0.39	140.07	69.08	19 27 21.7	668.1	
16	Mu			2.05	69.62	S. 21 31 44.0	-574.1	

512 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var in 1 of L
			Apparent Right Ascension in Time.	Var. of ☉'s R. A. in 1 hour of Long.	Sidereal Time of ☉'s Sem. pas. mer.	Declination.		
1841. Oct. 16	Moon I. L.	- -	^h 15 ^m 17 ^s 50 '30	143 '71	70 '07	S. 23 16 29 '2	-47	
17	Moon I. U.	2 '9	15 46 42 '37	144 '86	70 '39	S. 24 40 17 '5	-36	
	Moon I. L.	- -	16 15 44 '36	145 '34	70 '55	25 42 13 '4	25	
18	σ Scorpii -	4	16 11 34 '73			S. 25 12		
	α Scorpii -	1	16 19 42 '82			26 4		
	Moon I. U.	3 '9	16 44 47 '43	145 '03	70 '50	26 21 50 '0	-14	
	Moon I. L.	- -	17 13 42 '00	143 '92	70 '26	26 39 8 '8	- 3	
	A Ophiuchi -	4.5	17 5 37 '67			26 22		
	θ Ophiuchi -	3.4	17 12 17 '91			S. 24 50		
19	A Ophiuchi -	4.5	17 5 37 '66			S. 26 22		
	θ Ophiuchi -	3.4	17 12 17 '90			24 50		
	Moon I. U.	5 '0	17 42 18 '55	142 '04	69 '80	26 34 38 '2	+ 7	
	Moon I. L.	- -	18 10 28 '37	139 '50	69 '17	26 9 10 '2	17	
	μ ¹ Sagittarii	3.4	18 4 18 '48			21 6		
	λ Sagittarii	4	18 18 12 '88			S. 25 30		
20	μ ¹ Sagittarii	3.4	18 4 18 '46			S. 21 6		
	λ Sagittarii	4	18 18 12 '86			25 30		
	Moon I. U.	6 '0	18 38 4 '54	136 '46	68 '41	25 23 54 '5	+27	
	Moon I. L.	- -	19 5 2 '10	133 '10	67 '54	24 20 14 '3	36	
	τ Sagittarii	4	18 57 4 '35			27 54		
	d Sagittarii	5	19 8 23 '32			S. 19 14		
21	τ Sagittarii	4	18 57 4 '33			S. 27 54		
	d Sagittarii	5	19 8 23 '30			19 14		
	Moon I. U.	7 '0	19 31 18 '42	129 '62	66 '64	22 59 39 '7	+44	
	Moon I. L.	- -	19 56 53 '10	126 '18	65 '72	21 23 43 '5	51	
	c Sagittarii	4.5	19 52 56 '37			28 9		
	α ² Capricorni	3	20 9 17 '24			S. 13 2		
22	c Sagittarii	4.5	19 52 56 '35			S. 28 9		
	α ² Capricorni	3	20 9 17 '23			13 2		
	Moon I. U.	8 '1	20 21 47 '62	122 '95	64 '84	19 33 57 '5	+580	
	Moon I. L.	- -	20 46 5 '12	120 '04	64 '04	17 31 50 '8	639	
	ε Aquarii -	4.5	20 39 7 '62			10 4		
	η Capricorni	5	20 55 25 '01			S. 20 29		
23	ε Aquarii -	4.5	20 39 7 '61			S. 10 4		
	η Capricorni	5	20 55 25 '00			20 29		
	Moon I. U.	9 '1	21 9 50 '14	117 '55	63 '33	15 18 48 '1	+690	
	Moon I. L.	- -	21 33 8 '21	115 '55	62 '76	12 56 9 '7	735	
	β Aquarii -	3	21 23 14 '88			6 16		
	δ Capricorni	3.4	21 38 19 '45			S. 16 51		
24	β Aquarii -	3	21 23 14 '87			S. 6 16		
	δ Capricorni	3.4	21 38 19 '44			16 51		
	Moon I. U.	10 '1	21 56 5 '61	114 '11	62 '33	S. 10 25 13 '4	+775	

MOON-CULMINATING STARS. 513

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
841. ct. 24	Moon I. L.	- -	^h ^m ^s 22 18 49.28	^s 113.27	^s 62.07	[°] ['] ["] S. 7 47 13.8	["] +805.5	
	θ Aquarii -	4.5	22 8 30.33			8 34		
	ξ Aquarii -	4	22 20 42.51			S. 0 50		
25	θ Aquarii -	4.5	22 8 30.31			S. 8 34		
	ξ Aquarii -	4	22 20 42.49			0 50		
	Moon I. U.	11.2	22 41 26.61	113.06	61.98	5 3 27.0	+831.2	
	Moon I. L.	- -	23 4 5.32	113.51	62.08	S. 2 15 10.7	850.4	
	β Piscium -	5	22 55 51.25			N. 2 58		
	γ Piscium -	4.5	23 8 59.62			N. 2 25		
26	β Piscium -	5	22 55 51.24			N. 2 58		
	γ Piscium -	4.5	23 8 59.62			2 25		
	Moon I. U.	12.2	23 26 53.45	114.63	62.37	0 36 12.8	+862.3	
	Moon I. L.	- -	23 49 59.29	116.46	62.86	3 29 13.6	866.5	
	ω Piscium *	4.5	23 51 13.16			N. 5 59		
27	ω Piscium *	4.5	23 51 13.15			N. 5 59		
	Moon I. U.	13.2	0 13 31.27	118.99	63.54	6 22 12.2	+861.8	
	Moon I. L.	- -	0 37 37.92	122.23	64.41	9 13 15.9	847.1	
	δ Piscium *	5	0 40 30.76			N. 6 43		
28	δ Piscium *	5	0 40 30.76			N. 6 43		
	Moon I. U.	14.3	1 2 27.49	126.15	65.45	12 0 18.7	+821.4	
	Moon I. L.	- -	1 28 7.87	130.68	66.65	14 40 58.3	783.0	
	η Piscium -	4	1 23 3.73			14 31		
	β Arietis -	3	1 45 56.87			N. 20 2		
29	η Piscium -	4	1 23 3.73			N. 14 31		
	β Arietis -	3	1 45 56.87			20 2		
	Moon I. U.	15.3	1 54 45.90	135.74	67.98	17 12 35.0	+730.8	
	Moon II. L.	- -	2 24 45.65	141.39	69.36	19 32 17.4	663.6	
	θ ¹ Arietis -	6	2 9 22.49			19 10		
	π Arietis -	5	2 40 30.72			N. 16 48		
30	θ ¹ Arietis -	6	2 9 22.50			N. 19 10		
	π Arietis -	5	2 40 30.74			16 48		
	Moon II. U.	16.3	2 53 35.47	146.91	70.79	21 36 58.7	+580.7	
	δ Arietis -	4	3 2 37.67			19 7		
	η Tauri -	3	3 38 7.79			N. 23 37		
31	δ Arietis -	4	3 2 37.69			N. 19 7		
	η Tauri -	3	3 38 7.80			23 37		
	Moon II. L.	- -	3 23 30.72	152.24	72.14	23 23 31.1	+482.1	
	Moon II. U.	17.4	3 54 26.90	157.00	73.35	24 48 50.3	+368.7	
	v ¹ Tauri -	5	4 16 52.81			22 27		
	τ Tauri -	5	4 32 47.58			N. 22 39		
ov. 1	v ¹ Tauri -	5	4 16 52.83			N. 22 27		
	τ Tauri -	5	4 32 47.60			N. 22 39		

514 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of C's D in 1 h of Lo
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.		
1841.			^h ^m ^s	^s	^s	^o ['] ["]		
Nov. 1	Moon II. L.	- -	4 26 14 '85	160 '80	74 '31	N.25 50 10 '3	+242	
	Moon II. U.	18 '4	4 58 41 '01	163 '31	74 '96	26 25 17 '2	+107	
	β Tauri - -	2	5 16 19 '99			28 28		
	C Tauri - -	4.5	5 43 25 '27			N.27 34 -		
2	β Tauri - -	2	5 16 20 '02			N.28 28		
	C Tauri - -	4.5	5 43 25 '30			27 34		
	Moon II. L.	- -	5 31 28 '38	164 '30	75 '24	26 32 42 '7	- 33	
	Moon II. U.	19 '4	6 4 18 '10	163 '71	75 '13	26 11 53 '3	174	
	ε Geminor.	3	6 34 13 '76			25 17		
	ζ Geminor.	4	6 54 45 '19			N.20 48		
3	ε Geminor.	3	6 34 13 '79			N.25 17		
	ζ Geminor.	4	6 54 45 '23			20 48		
	Moon II. L.	- -	6 36 51 '72	161 '65	74 '67	25 23 13 '1	-311	
	Moon II. U.	20 '5	7 8 53 '10	158 '40	73 '91	24 8 1 '1	435	
	β Geminor.	2	7 35 39 '39			28 24		
	φ Geminor.	5	7 43 50 '19			N.27 10		
4	β Geminor.	2	7 35 39 '42			N.28 24		
	φ Geminor.	5	7 43 50 '22			27 10		
	Moon II. L.	- -	7 40 10 '16	154 '33	72 '94	22 28 20 '5	-555	
	Moon II. U.	21 '5	8 10 35 '38	149 '83	71 '83	20 26 45 '9	657	
	δ Cancrī - -	4.5	8 35 42 '48			18 44		
	α ² Cancrī - *	5	8 49 50 '80			N.12 28		
5	δ Cancrī - -	4.5	8 35 42 '52			N.18 44		
	α ² Cancrī - *	5	8 49 50 '83			12 28		
	Moon II. L.	- -	8 40 5 '87	145 '27	70 '69	18 6 11 '5	-745	
	Moon II. U.	22 '5	9 8 42 '81	140 '95	69 '57	15 29 38 '6	817	
	α Leonis - *	4	9 32 43 '13			10 37		
	π Leonis - *	4.5	9 51 51 '78			N. 8 48		
6	α Leonis - *	4	9 32 43 '17			N.10 37		
	π Leonis - *	4.5	9 51 51 '82			8 48		
	Moon II. L.	- -	9 36 30 '57	137 '11	68 '56	12 40 9 '4	-874	
	Moon II. U.	23 '6	10 3 35 '82	133 '88	67 '70	9 40 40 '5	917	
	ρ Leonis - *	4	10 24 29 '23			N.10 7		
7	ρ Leonis - *	4	10 24 29 '26			N.10 7		
	Moon II. L.	- -	10 30 6 '62	131 '38	67 '01	6 34 2 '2	-946	
	Moon II. U.	24 '6	10 56 11 '97	129 '65	66 '51	3 22 57 '9	965	
	σ Leonis - *	4	11 12 59 '09			6 54		
	υ Leonis - -	4.5	11 28 51 '22			N. 0 3		
8	Moon II. L.	- -	11 22 1 '23	128 '69	66 '21	N. 0 10 4 '7	-96	
	Moon II. U.	25 '7	11 47 43 '65	128 '50	66 '12	S. 3 2 5 '2	95	
9	Moon II. L.	- -	12 13 28 '17	129 '03	66 '22	S. 6 11 1 '8	-93	
	Moon II. U.	26 '7	12 39 23 '04	130 '22	66 '49	S. 9 14 17 '3	-89	

MOON-CULMINATING STARS. 515

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s Dec. in 1 hour of Long.
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
841. ov. 10	Moon II. L. - -		^h ^m ^s 13 5 35.63	^s 131.97	^s 66.91	[°] ['] ["] S. 12 9 26.4	["] -851.4	
	Moon II. U. 27.7		13 32 11.93	134.15	67.45	14 54 3.9	792.8	
11	Moon II. L. - -		13 59 16.30	136.61	68.06	S. 17 25 48.3	-722.7	
	Moon II. U. 28.7		14 26 50.92	139.16	68.70	19 42 24.8	641.6	
12	Moon II. L. - -		14 54 55.65	141.59	69.31	S. 21 41 47.2	-550.6	
	Moon I. U. 0.3		15 21 7.91	143.58	69.84	23 22 4.9	451.1	
13	Moon I. L. - -		15 50 0.70	145.10	70.23	S. 24 41 46.8	-345.0	
14	Moon I. U. 1.3		16 19 7.40	145.87	70.43	S. 25 39 47.6	-234.7	
	Moon I. L. - -		16 48 18.04	145.75	70.42	26 15 31.7	122.6	
15	Moon I. U. 2.3		17 17 21.73	144.71	70.19	S. 26 28 53.8	-11.5	
	Moon I. L. - -		17 46 7.61	142.79	69.74	26 20 20.9	+96.2	
16	Moon I. U. 3.4		18 14 25.76	140.12	69.09	S. 25 50 46.4	+198.5	
	Moon I. L. - -		18 42 8.17	136.87	68.29	25 1 24.9	293.8	
17	♌ Sagittarii 4.5		18 35 46.46			S. 27 9		
	♍ Sagittarii 3		18 45 27.47			26 29		
	Moon I. U. 4.4		19 9 9.22	133.26	67.39	23 53 47.9	+381.0	
	Moon I. L. - -		19 35 25.87	129.51	66.44	22 29 34.3	459.8	
	♋ Sagittarii 4.5		19 27 5.00			25 14		
	57 Sagittarii 5.6		19 43 0.55			S. 19 26		
18	♋ Sagittarii 4.5		19 27 4.99			S. 25 14		
	57 Sagittarii 5.6		19 43 0.54			19 26		
	Moon I. U. 5.4		20 0 57.56	125.80	65.47	20 50 26.1	+530.1	
	Moon I. L. - -		20 25 45.87	122.31	64.56	18 58 4.3	592.2	
	♏ Capricorni 5		20 18 16.28			18 44		
	♐ Capricorni 5		20 31 3.13			S. 18 42		
19	♏ Capricorni 5		20 18 16.27			S. 18 44		
	♐ Capricorni 5		20 31 3.12			18 42		
	Moon I. U. 6.5		20 49 54.31	119.17	63.72	16 54 3.8	+646.6	
	Moon I. L. - -		21 13 27.73	116.49	63.00	14 39 54.3	693.8	
	♏ Capricorni 5		21 7 0.13			15 50		
	♒ Aquarii - 3		21 23 14.53			S. 6 16		
20	♏ Capricorni 5		21 7 0.12			S. 15 50		
	♒ Aquarii - 3		21 23 14.51			6 16		
	Moon I. U. 7.5		21 36 32.17	114.34	62.42	12 16 58.9	+734.4	
	Moon I. : -			112.79	61.99	9 46 33.7	+768.8	
	♑ Aquarii -					14 38		
	♒ Aquarii -					S. 8 34		
21	♑ Aquarii -					S. 14 38		
	♒ Aquarii -					S. 8 34		

516 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec in 1 hour of Long.	
1841.			^h ^m ^s	^s	^s	[°] ['] ["]	["]	
Nov. 21	Moon I. U.	8.5	22 21 41.71	111.88	61.73	S. 7 9 51.7	+797.3	
	Moon I. L.	-	22 44 2.23	111.65	61.66	4 28 3.4	819.1	
	λ Aquarii -	4	22 44 22.89			S. 8 25		
	β Piscium -	5	22 55 50.96			N. 2 58		
22	λ Aquarii -	4	22 44 22.88			S. 8 25		
	β Piscium -	5	22 55 50.95			N. 2 58		
	Moon I. U.	9.6	23 6 24.14	112.12	61.80	S. 1 42 19.2	+836.1	
	Moon I. L.	-	23 28 56.15	113.33	62.12	N. 1 6 7.2	846.1	
	κ ¹ Piscium -	5.6	23 18 50.94			0 23		
	ι Piscium *	4.5	23 31 50.28			N. 4 46		
23	κ ¹ Piscium -	5.6	23 18 50.93			N. 0 23		
	ι Piscium *	4.5	23 31 50.27			4 46		
	Moon I. U.	10.6	23 51 47.18	115.30	62.66	3 55 56.9	+850.1	
	Moon I. L.	-	0 15 6.55	118.05	63.40	6 45 41.1	845.1	
	d Piscium *	5.6	0 12 29.51			N. 7 18		
24	d Piscium *	5.6	0 12 29.50			N. 7 18		
	Moon I. U.	11.6	0 39 3.55	121.58	64.35	9 33 38.0	+832.1	
	Moon I. L.	-	1 3 47.57	125.88	65.49	12 17 49.9	808.1	
	ε Piscium *	4	0 54 46.34			N. 7 2		
25	ε Piscium *	4	0 54 46.33			N. 7 2		
	Moon I. U.	12.7	1 29 27.64	130.91	66.80	14 56 0.5	+771.1	
	Moon I. L.	-	1 56 11.87	136.56	68.24	17 25 32.6	721.1	
	β Arietis -	3	1 45 56.93			20 2		
	θ ¹ Arietis -	6	2 9 22.60			N. 19 10		
26	β Arietis -	3	1 45 56.92			N. 20 2		
	θ ¹ Arietis -	6	2 9 22.60			19 10		
	Moon I. U.	13.7	2 24 6.79	142.66	69.79	19 43 27.6	+655.1	
	Moon I. L.	-	2 53 16.45	148.96	71.35	21 46 29.9	575.1	
	ε Arietis -	5	2 50 13.12			20 42		
	δ Arietis -	4	3 2 37.93			N. 19 7		
27	ε Arietis -	5	2 50 13.13			N. 20 42		
	δ Arietis -	4	3 2 37.94			19 7		
	Moon I. U.	14.7	3 23 41.02	155.09	72.84	23 31 12.5	+471.1	
	Moon I. L.	-	3 55 16.13	160.62	74.18	24 54 7.6	355.1	
	η Tauri -	3	3 38 8.17			23 37		
	A ¹ Tauri -	5	3 55 23.64			N. 21 39		
28	η Tauri -	3	3 38 8.18			N. 23 37		
	A ¹ Tauri -	5	3 55 23.65			21 39		
	Moon II. U.	15.8	4 30 22.13	165.23	75.24	25 52 4.7	+225.1	
	ι Tauri -	4.5	4 53 41.39			21 21		
	β Tauri -	2	5 16 20.65			N. 28 28		
29	ι Tauri -	4.5	4 53 41.41			N. 21 21		

MOON-CULMINATING STARS. 517

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.	Var. of ☾'s Dec. in 1 hour of Long.	
141.			h m s	s	s	° ' "	"	
v. 29	β Tauri - -	2	5 16 20.67			N. 28 28		
	Moon II. L. - -	- -	5 3 43.98	168.12	75.95	26 22 27.2	+ 79.6	
	Moon II. U. 16.8		5 37 29.82	169.19	76.24	26 23 32.8	- 69.2	
	μ Geminor. 3		6 13 26.05			22 35		
	ε Geminor. 3		6 34 14.56			N. 25 17		
30	μ Geminor. 3		6 13 26.07			N. 22 35		
	ε Geminor. 3		6 34 14.59			25 17		
	Moon II. L. - -	- -	6 11 17.26	168.39	76.09	25 54 46.3	- 218.0	
	Moon II. U. 17.8		6 44 41.47	165.87	75.53	24 56 43.8	360.9	
	δ Geminor. 3.4		7 10 42.85			22 16		
	β Geminor. 2		7 35 40.29			N. 28 24		
c. 1	δ Geminor. 3.4		7 10 42.88			N. 22 16		
	β Geminor. 2		7 35 40.32			28 24		
	Moon II. L. - -	- -	7 17 32.60	161.96	74.64	23 31 9.4	- 492.6	
	Moon II. U. 18.9		7 49 27.76	157.13	73.51	21 40 40.2	609.5	
	θ Cancrī - -	5.6	8 22 36.35			18 38		
	δ Cancrī - -	4.5	8 35 43.39			N. 18 44		
2	θ Cancrī - -	5.6	8 22 36.38			N. 18 38		
	δ Cancrī - -	4.5	8 35 43.42			18 44		
	Moon II. L. - -	- -	8 20 21.90	151.86	72.25	19 28 28.5	- 709.4	
	Moon II. U. 19.9		8 50 12.36	146.58	70.96	16 58 5.0	791.5	
	q Cancrī - -	6	9 10 10.48			18 23		
	o Leonis - *	4	9 32 44.02			N. 10 37		
3	q Cancrī - -	6	9 10 10.51			N. 18 23		
	o Leonis - *	4	9 32 44.06			10 37		
	Moon II. L. - -	- -	9 19 1.12	141.63	69.73	14 13 3.1	- 855.9	
	Moon II. U. 21.0		9 46 53.64	137.24	68.62	11 16 50.2	903.5	
	α Leonis - *	1	9 59 58.24			12 45		
	ρ Leonis - *	4	10 24 30.10			N. 10 7		
4	α Leonis - *	1	9 59 58.28			N. 12 45		
	ρ Leonis - *	4	10 24 30.14			10 7		
	Moon II. L. - -	- -	10 13 57.65	133.57	67.66	8 12 40.3	- 935.6	
	Moon II. U. 22.0		10 40 22.43	130.70	66.90	5 3 32.4	953.4	
	χ Leonis - *	4.5	10 56 52.45			8 12		
	σ Leonis - *	4	11 12 59.93			N. 6 54		
5	χ Leonis - *	4.5	10 56 52.48			N. 8 12		
	σ Leonis - *	4	11 12 59.96			6 54		
	Moon II. L. - -	- -	11 6 17.88	128.68	66.35	N. 1 52 10.3	- 958.1	
	Moon II. U. 23.0		11 31 54.02	127.49	66.01	S. 1 18 53.8	- 950.6	
	β Virginis -	3.4	11 42 28.52			N. 2 40		
			12 11 49.57			N. 0 13		
			18.55			N. 2 40		
			19			N. 0 13		

518 MOON-CULMINATING STARS.

Date.	Name.	Mag- nitude.	At Greenwich Transit.					Var. of ☾'s De in 1 ho of Lon
			Apparent Right Ascension in Time.	Var. of ☾'s R. A. in 1 hour of Long.	Sidereal Time of ☾'s Sem. pas. mer.	Declination.		
1841. Dec. 6	Moon II. L.	- -	^h ^m ^s 11 57 20·85	^s 127·11	^s 65·88	[°] ['] ["] S. 4 27 19·3	["] -931	
	Moon II. U.	24·1	12 22 47·73	127·49	65·95	7 30 52·6	902	
	ψ Virginis -	5.6	12 46 8·73			8 40		
	g Virginis -	5.6	12 59 37·55			S. 9 53		
7	ψ Virginis -	5.6	12 46 8·76			S. 8 40		
	g Virginis -	5.6	12 59 37·58			9 53		
	Moon II. L.	- -	12 48 23·38	128·56	66·20	10 27 25·2	-861	
	Moon II. U.	25·1	13 14 15·46	130·21	66·60	13 14 51·6	811	
	x Virginis -	5.6	13 41 17·35			S. 17 20		
8	Moon II. L.	- -	13 40 30·34	132·34	67·11	S. 15 51 8·5	-750	
	Moon II. U.	26·1	14 7 12·79	134·78	67·70	18 14 14·8	679	
9	Moon II. L.	- -	14 34 25·50	137·35	68·33	S. 20 22 12·7	-598	
	Moon II. U.	27·2	15 2 8·72	139·83	68·93	22 13 11·1	509	
10	Moon II. L.	- -	15 30 20·13	142·00	69·45	S. 23 45 28·8	-412	
	Moon II. U.	28·2	15 58 54·54	143·63	69·84	24 57 42·4	309	
11	Moon II. L.	- -	16 27 44·40	144·53	70·05	S. 25 48 48·3	-201	
	Moon II. U.	29·3	16 56 39·93	144·57	70·06	26 18 7·9	-91	
12	Moon I. L.	- -	17 23 10·74	143·74	69·83	S. 26 25 34·2	+ 17	
13	Moon I. U.	0·6	17 51 45·96	141·99	69·38	S. 26 11 28·5	+123	
	Moon I. L.	- -	18 19 55·35	139·46	68·75	25 36 41·0	223	
14	Moon I. U.	1·6	18 47 30·46	136·31	67·96	S. 24 42 24·0	+317	
	Moon I. L.	- -	19 14 25·11	132·75	67·06	23 30 8·8	403	
15	Moon I. U.	2·6	19 40 35·69	129·00	66·11	S. 22 1 35·9	+480	
	Moon I. L.	- -	20 6 1·11	125·26	65·15	20 18 31·8	548	
16	Moon I. U.	3·7	20 30 42·52	121·69	64·22	S. 18 22 41·1	+608	
	Moon I. L.	- -	20 54 42·93	118·45	63·38	16 15 46·7	655	
17	μ Aquarii -	4.5	20 44 7·53			S. 9 35		
	σ Capricorni	5	21 6 59·87			15 50		
	Moon I. U.	4·7	21 18 6·96	115·64	62·63	13 59 23·6	+703	
	Moon I. L.	- -	21 41 0·32	113·35	62·03	11 34 59·7	739	
	γ Capricorni	4	21 31 19·84			17 23		
	μ Capricorni	5	21 44 40·56			18 18		
18	γ Capricorni	4	21 31 19					
	μ Capricorni	5	21 44 40					
	Moon I. U.	5·7	22 3 29·9					
	Moon I. L.	- -	22 25 41·9					
	γ Aquarii -	4	22 13 29·7					
	η Aquarii -	4	22 27 14·3					

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of C's R. A. in 1 hour of Long.	Sidereal Time of C's Sem. pas. mer.	Declination.	Var. of C's Dec. in 1 hour of Long.	
841. Dec. 19	γ Aquarii -	4	^h 22 ^m 13 ^s 29.75	^s	^s	^o 2 ['] 11 ["]	["]	
	η Aquarii -	4	22 27 14.49			0 56		
	Moon I. v.	6.8	22 47 45.37	110.13	61.21	3 46 55.4	+811.6	
	Moon I. L.	-	23 9 47.91	110.41	61.32	S. 1 3 16.7	823.9	
	γ Piscium -	4.5	23 8 59.04			N. 2 25		
	κ^1 Piscium -	5.6	23 18 50.65			N. 0 23		
20	γ Piscium -	4.5	23 8 59.03			N. 2 25		
	κ^1 Piscium -	5.6	23 18 50.64			0 23		
	Moon I. v.	7.8	23 31 58.19	111.43	61.63	1 42 14.2	+830.3	
	Moon I. L.	-	23 54 25.26	113.21	62.14	4 28 24.9	830.4	
	ω Piscium *	4.5	23 51 12.67			5 59		
	B Piscium *	6	0 6 51.13			N. 7 56		
21	ω Piscium *	4.5	23 51 12.66			N. 5 59		
	B Piscium *	6	0 6 51.12			7 56		
	Moon I. v.	8.8	0 17 18.46	115.78	62.87	7 13 54.4	+823.4	
	Moon I. L.	-	0 40 47.26	119.16	63.81	9 57 13.4	808.5	
	δ Piscium *	5	0 40 30.42			6 43		
	ϵ Piscium *	4	0 54 46.12			N. 7 2		
22	δ Piscium *	5	0 40 30.41			N. 6 43		
	ϵ Piscium *	4	0 54 46.11			7 2		
	Moon I. v.	9.9	1 5 1.44	123.34	64.95	12 36 40.0	+784.3	
	Moon I. L.	-	1 30 10.61	128.32	66.27	15 10 12.6	749.2	
	η Piscium -	4	1 23 3.54			14.31		
	β Arietis -	3	1 45 56.78			N. 20 2		
23	η Piscium -	4	1 23 3.53			N. 14 31		
	β Arietis -	3	1 45 56.77			20 2		
	Moon I. v.	10.9	1 56 23.97	134.02	67.75	17 35 30.8	+701.6	
	Moon I. L.	-	2 23 49.34	140.30	69.36	19 49 52.4	639.4	
	θ^1 Arietis -	6	2 9 22.50			19 10		
	ν Arietis -	5.6	2 29 52.67			N. 21 16		
24	θ^1 Arietis -	6	2 9 22.49			N. 19 10		
	ν Arietis -	5.6	2 29 52.67			21 16		
	Moon I. v.	12.0	2 52 32.54	146.95	71.01	21 50 12.5	+561.0	
	Moon I. L.	-	3 22 36.16	153.64	72.64	23 33 8.2	465.3	
	ζ Arietis -	5	3 5 51.74			20 27		
	η Tauri -	3	3 38 8.26			N. 23 37		
25	ζ Arietis -	5	3 5 51.73			N. 20 27		
	η Tauri -	3	3 38 8.26			23 37		
	Moon I. v.	13.0	3 53 58.18	159.93	74.13	24 55 9.1	+351.9	
	Moon I. L.	-	4 26 30.99	165.34	75.39	25 52 48.9	+222.0	
	ν^1 Tauri -	5	4 16 53.48			22 27		
	τ Tauri -	5	4 32 48.34			N. 22 39		
	τ Tauri -	5	4 16 53.48			N. 22 27		

Date.	Name.	Mag- nitude.	At Greenwich Transit.					
			Apparent Right Ascension in Time.	Var. of ☿'s R. A. in 1 hour of Long.	Sidereal Time of ☿'s Sem. pas. mer.	Declination.	Var. ☿'s D in 1 hr of Lon	
1841.			h m s	s	s	° ' "		
Dec. 26	τ Tauri - -	5	4 32 48.35			N. 22 39		
	Moon I. U.	14.0	5 0 0.87	169.36	76.30	26 23 4.6	+ 78	
	Moon I. L.	- -	5 34 8.59	171.59	76.80	26 23 43.3	- 73	
	β Tauri - -	2	5 16 21.06			28 28		
	C Tauri - -	4.5	5 43 26.45			N. 27 34		
27	β Tauri - -	2	5 16 21.07			N. 28 28		
	C Tauri - -	4.5	5 43 26.46			27 34		
	Moon I. U.	15.1	6 8 31.11	171.82	76.84	25 53 33.7	- 228	
	ε Geminor.	3	6 34 15.15			25 17		
	ζ Geminor.	4	6 54 46.62			N. 20 48		
28	ε Geminor.	3	6 34 15.16			N. 25 17		
	ζ Geminor.	4	6 54 46.64			20 48		
	Moon II. L.	- -	6 45 17.45	170.00	76.42	24 52 45.5	- 378	
	Moon II. U.	16.1	7 18 58.42	166.58	75.63	23 22 44.6	519	
	β Geminor.	2	7 35 41.04			28 24		
	μ ¹ Cancrī - -	6	7 56 58.66			N. 23 5		
29	β Geminor.	2	7 35 41.06			N. 28 24		
	μ ¹ Cancrī - -	6	7 56 58.68			23 5		
	Moon II. L.	- -	7 51 50.72	161.98	74.55	21 26 6.5	- 644	
	Moon II. U.	17.2	8 23 43.14	156.70	73.31	19 6 17.0	750	
	δ Cancrī - -	4.5	8 35 44.20			18 44		
	α ² Cancrī - *	5	8 49 52.50			N. 12 28		
30	δ Cancrī - -	4.5	8 35 44.23			N. 18 44		
	α ² Cancrī - *	5	8 49 52.53			12 28		
	Moon II. L.	- -	8 54 30.78	151.25	71.99	16 27 12.0	- 836	
	Moon II. U.	18.2	9 24 14.03	146.02	70.73	13 32 56.6	902	
	ν Leonis - *	5.6	9 49 45.06			13 12		
	α Leonis - *	1	9 59 59.12			N. 12 45		
31	ν Leonis - *	5.6	9 49 45.09			N. 13 12		
	α Leonis - *	1	9 59 59.15			12 45		
	Moon II. L.	- -	9 52 57.25	141.29	69.56	10 27 33.4	- 948	
	Moon II. U.	19.3	10 20 47.79	137.26	68.55	7 14 51.0	- 975	
	34 Sextantis *	6	10 34 28.04			4 25		
	χ Leonis - *	4.5	10 56 53.35			N. 8 12		

OCCULTATIONS OF PLANETS AND FIXED STARS BY THE MOON, VISIBLE AT GREENWICH.

Day of the Month.	Star's Name.	Magnitude.	Immersion.				Emersion.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Ver- tex.			N. Point.	Ver- tex.
			^h ^m	^h ^m	^o	^o	^h ^m	^h ^m	^o	^o
Jan. 6	37 Geminorum -	6	11 35	16 28	85	129	12 27	17 21	244	286
Feb. 6	A Leonis - - -	5	3 19	6 12	57	19	4 11	7 5	259	220
27	7 Tauri - - -	6	4 46	6 17	171	195	5 16	6 46	218	249
27	e Pleiadum - -	5	9 30	11 0	70	111	10 19	11 48	302	341
27	g Pleiadum - -	5.6	9 44†	11 14	6	46				
27	c Pleiadum - -	5	9 54	11 24	36	77	10 22	11 51	335	14
Mar. 2	37 Geminorum -	6	9 56	11 14	56	97	10 55	12 13	271	315
11	Solitarii - - -	6	16 12	16 53	93	104	17 26	18 8	231	253
15	φ Sagittarii -	4.5	17 8†	17 34	186	172				
16	h ² Sagittarii -	4.5	16 4	16 25	119	90	17 19	17 40	262	243
16	h ¹ Sagittarii -	6	16 23†	16 44	190	163				
26	VENUS - - -	-	2 56	2 40	52	49	3 38	3 23	349	359
27	χ Tauri - - -	6	7 34†	7 14	4	46				
29	ε Geminorum -	3	13 50†	13 21	347	24				
31	δ Cancrī - - -	4.5	14 7	13 30	78	119	14 59	14 22	233	272
Apr. 15	d ¹ Capricorni -	6	17 33†	15 57	203	170				
15	d ² Capricorni -	6	17 44	16 7	49	16	18 13	16 36	3	334
28	π ² Cancrī - - -	6	10 55†	8 28	329	354				
29	A Leonis - - -	5	10 7†	7 37	146	148				
30	p ² Leonis - - -	5.6	15 38	13 3	78	115	16 34	13 59	223	261
May 3	75 Virginis - -	6	15 59†	13 12	154	177				
5	Solitarii - - -	6	12 31†	9 37	334	312				
6	m Scorpii - - -	6	14 30†	11 31	163	149				
9	σ Sagittarii -	3	16 39	13 28	141	122	17 39	14 28	234	223
13	37 Aquarii - -	6	18 37	15 10	99	70	19 49	16 22	320	299
23	w ¹ Geminorum -	6	13 1	8 56	48	89	13 45	9 40	282	320
June 2	b Scorpii - - -	5	15 52	11 7	146	148	16 18	11 33	184	189
4	3 Sagittarii -	5	20 0	15 6	106	127	21 14†	16 20	272	303
7	4 Capricorni -	6	17 11	12 6	29	3	17 26	12 22	6	342
8	ni - - -	5.6	17 46	12 37	160	132	18 40	13 31	246	225
		6	21 35†	15 58	25	344				
July			16 14	9 35	68	59	17 35	10 56	286	289
			9 54	13 7	121	128	21 14	14 26	278	297

OCCULTATIONS OF PLANETS AND FIXED STARS BY THE MOON
VISIBLE AT GREENWICH.

Day of the Month.	Star's Name.	Magnitude.	Immersion.				Emersion.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle	
					N. Point.	Ver- tex.				
July 4	♐ Sagittarii -	6	^h 16 ^m 48	^h 9 ^m 57	^o 94	^o 67	^h 18 ^m 7	^h 11 ^m 16	^o 298	
5	♑ 19 Capricorni -	6	21 52†	14 56	210	221	-	-	-	
9	♓ 22 Piscium -	6	21 46†	14 35	215	194	-	-	-	
30	♐ Sagittarii -	3	17 32	8 59	105	93	18 58	10 24	279	
Aug. 3	♒ Aquarii -	6	1 41	16 51	132	163	2 47	17 57	293	
5	♓ Piscium -	5	0 35	15 37	175	186	1 27	16 29	259	
10	♒ Pleiadum -	4.5	19 53	10 36	112	78	20 42	11 25	281	
10	♒ Pleiadum -	5.6	20 4	10 47	155	120	20 37	11 20	238	
10	♒ Pleiadum -	5	20 29	11 12	159	123	20 59	11 42	234	
10	♒ Pleiadum -	5	20 30†	11 13	197	160	-	-	-	
10	♒ Pleiadum -	5	20 30	11 13	50	13	20 57	11 40	344	
10	♉ Tauri -	3	20 51	11 33	74	36	21 35	12 17	321	
10	♒ Pleiadum -	5.6	21 40	12 23	39	358	22 0	12 43	357	
10	♒ Pleiadum -	5	21 47†	12 30	18	337	-	-	-	
12	♉ 139 Tauri -	5.6	23 13†	13 48	4	325	-	-	-	
13	♊ Geminorum -	6	22 54	13 25	50	17	23 32	14 3	303	
25	♐ Sagittarii -	5	19 53	9 37	113	133	21 7†	10 51	263	
29	♑ Capricorni -	5.6	17 40	7 9	129	103	18 55	8 24	278	
Sept. 4	♓ 101 Piscium -	6	17 54†	6 59	168	133	18 24	7 29	239	
9	♊ Geminorum -	3	1 37	14 21	69	26	2 35	15 19	288	
11	VENUS -	-	5 55	18 30	87	52	7 6	19 42	224	
12	♌ 18 Leonis -	6	3 33	16 5	109	70	4 16	16 48	208	
21	♏ Ophiuchi -	6	18 21	6 19	30	40	18 58	6 57	336	
22	♐ Sagittarii -	5.6	18 50	6 44	185	191	18 57	6 51	194	
23	♐ Sagittarii -	6	21 16	9 6	69	88	22 11	10 1	333	
24	♐ Sagittarii -	6	18 20	6 6	55	40	19 8	6 54	346	
25	♑ 19 Capricorni -	6	22 26	10 7	136	152	23 39	11 21	285	
29	♓ 22 Piscium -	6	21 35†	9 1	215	192	-	-	-	
Oct. 1	♓ 101 Piscium -	6	2 51	14 9	77	97	3 48	15 5	337	
4	♉ Tauri -	6	2 41	13 46	110	83	3 55	15 1	276	
26	♓ Piscium -	5	3 19	12 58	121	155	4 25	14 4	299	
30	♈ Arietis -	5	0 58	10 22	68	40	1 49	11 13	1	
31	♒ Pleiadum -	5	20 12	5 33	161	125	20 40	6	†	

OCCULTATIONS OF PLANETS AND FIXED STARS BY THE MOON,

VISIBLE AT GREENWICH.

Day of the Month.	Star's Name.	Magnitude.	Immersion.				Emersion.			
			Sidereal Time.	Mean Time.	Angle from		Sidereal Time.	Mean Time.	Angle from	
					N. Point.	Ver- tex.			N. Point.	Ver- tex.
			^h ^m	^h ^m	^o	^o	^h ^m	^h ^m	^o	^o
Oct. 31	γ Tauri - - -	3	20 53†	6 14	196	158				
31	f Pleiadum - -	5	21 8	6 29	140	101	21 52	7 13	254	213
31	λ Pleiadum - -	5.6	21 19	6 39	164	124	21 47	7 7	230	189
Nov. 2	139 Tauri - - -	5.6	23 5	8 18	145	107	23 38	8 51	223	181
3	ω Geminorum -	6	0 12†	9 20	177	138				
17	χ Sagittarii -	6	22 12	6 26	121	147	23 21†	7 55	283	316
25	101 Piscium - -	6	22 44	6 26	115	82	23 55	7 36	308	287
27	b Pleiadum - -	4.5	8 17	15 49	119	162	9 11	16 43	252	294
27	g Pleiadum - -	5.6	8 44†	16 16	185	228				
27	d Pleiadum - -	5	8 52	16 24	76	119	9 45	17 17	293	334
27	e Pleiadum - -	5	9 10†	16 42	185	227				
27	η Tauri - - -	3	9 20	16 53	106	147	10 13	17 46	263	302
27	f Pleiadum - -	5	9 59	17 31	89	129	10 51	18 23	279	316
27	λ Pleiadum - -	5.6	10 0	17 32	107	147	10 51	18 23	262	298
29	125 Tauri - - -	6	2 4	9 29	67	25	3 3	10 28	302	265
29	139 Tauri - - -	5.6	10 59†	18 23	170	213				
Dec. 2	δ Cancrī - - -	6	8 33	15 46	9	5	9 17	16 29	295	303
18	ρ Aquarii - - -	6	2 57	9 8	130	166	3 59†	10 9	289	327
20	λ Piscium - - -	5	23 38	5 42	64	65	0 16	6 19	8	16
21	45 Piscium - - -	6	0 10†	6 9	215	214				
24	ϵ Arietis - - -	5	0 36†	6 24	24	351				
29	θ Cancrī - - -	5.6	7 48	13 13	80	70	8 56	14 23	230	239
31	z Leonis - - -	6	6 45	12 4	66	32	7 51	13 10	235	209

† A near approach.

‡ Star below the horizon.

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limit Parall.
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	♄	Latitude
Jan. 1	η Piscium -	4	11 47 0	1 22 59.97	N.14 31 37.8	S.40 58	6 N. 7
3	ε Arietis -	5	1 58 30	2 50 9.33	20 42 13.6	N.64 50	90 N. 3
3	b Pleiadum	4.5	19 52 7	3 35 28.24	23 36 42.6	59 13	90 N. 2
3	e Pleiadum	5	19 59 17	3 35 46.98	N.23 58 1.0	N.38 52	90 N.
3	c Pleiadum	5	20 13 32	3 36 24.25	N.23 52 8.7	N.46 40	90 N. 1
3	d Pleiadum	5	20 25 31	3 36 55.62	23 27 5.0	73 20	90 N. 4
3	η Tauri - -	3	20 51 46	3 38 4.38	23 36 43.3	67 12	90 N. 3
3	f Pleiadum	5	21 30 2	3 39 44.80	N.23 33 56.1	N.75 1	90 N. 5
5	β Tauri - -	2	8 34 39	5 16 16.99	N.28 28 8.0	S.57 17	13 S. 6
5	C Tauri - -	4.5	18 4 33	5 43 22.47	27 34 13.0	S. 3 9	40 N. 1
6	37 Geminor.	6	15 56 23	6 45 33.71	25 34 11.3	N.42 36	90 N. 1
7	κ Geminor.	4	9 47 49	7 34 52.89	N.24 46 27.3	S.43 19	4 N. 6
8	δ Cancri -	4.5	9 5 20	8 35 40.78	N.18 44 3.6	N.63 7	90 N. 2
9	Α Leonis -	5	20 32 7	9 59 29.70	10 46 23.0	34 18	80 N. 1
10	d Leonis -	5	21 6 53	10 52 22.55	4 28 6.2	23 29	66 N. 2
11	ν Leonis -	4.5	14 55 11	11 28 50.00	N. 0 3 7.0	N. 4 47	48 N. 3
16	b Scorpii -	5	20 7 40	15 41 25.85	S.25 15 41.7	N.19 1	44 N. 2
16	A' Scorpii -	5	21 21 45	15 44 4.92	24 50 49.0	S.13 36	12 N. 5
16	π Scorpii -	3.4	23 45 48	15 49 14.90	25 39 1.2	N.20 11	44 N. 2
17	σ Scorpii -	4	10 2 47	16 11 32.18	S.25 12 18.8	S.60 22	41 S. 9
17	α Scorpii -	1	13 46 18	16 19 40.19	S.26 4 26.7	S.24 31	2 S. 7
18	Α Ophiuchi	4.5	10 36 5	17 5 34.63	26 21 48.4	S.65 25	55 S. 9
19	3 Sagittarii	5	1 0 38	17 37 33.08	27 45 48.8	N.11 35	26 N. 3
19	Sagittarii	5	10 14 22	17 58 0.61	S.28 28 3.1	N.63 46	62 N. 3
20	φ Sagittarii	4.5	3 22 4	18 35 43.04	S.27 8 52.5	N.32 30	56 N.
26	λ Piscium -	5	10 25 49	23 33 56.44	N. 0 54 23.9	S.19 17	26 N. 6
28	η Piscium -	4	18 21 44	1 22 59.65	14 31 36.0	S.33 49	12 N. 7
30	ε Arietis -	5	9 43 57	2 50 9.02	N.20 42 12.6	N.70 58	90 N. 4
31	b Pleiadum	4.5	4 17 27	3 35 27.95	N.23 36 42.2	N.64 37	90 N. 3
31	e Pleiadum	5	4 24 54	3 35 46.70	23 58 0.7	44 16	90 N. 1
31	c Pleiadum	5	4 39 42	3 36 23.96	23 52 8.4	52 3	90 N. 2
31	η Tauri - -	3	5 19 24	3 38 4.11	N.23 36 43.0	N.72 33	90 N. 4
Feb. 1	β Tauri - -	2	18 22 57	5 16 16.88	N.28 28 9.0	S.53 40	1
2	C Tauri - -	4.5	4 12 18	5 43 22.41	27 34 13.9	0 2	
3	κ Geminor.	4	20 55 49	7 34 53.11	24 46 27.6	S.42 20	
4	δ Cancri -	4.5	20 27 41	8 35 41.14	N.18 44 2.6	N.62 51	

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon.

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limiting Parallels.
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	♄	Latitude.
Feb. 6	♂ Leonis	5	7 43 49	9 59 30.25	N. 10 46 20.0	N. 32 21	77° N. 13 S.
7	♂ Leonis	5	7 51 16	10 52 23.20	4 28 1.9	20 41	63° N. 25 S.
8	♂ Leonis	4.5	1 12 29	11 28 50.72	N. 0 3 2.1	1 33	45° N. 42 S.
13	♂ Scorpii	5	3 17 40	15 41 26.84	S. 25 15 47.8	N. 16 31	41° N. 27 S.
13	♂ Scorpii	5	4 30 52	15 44 5.90	S. 24 50 52.2	S. 16 5	10° N. 61 S.
13	♂ Scorpii	3.4	6 53 17	15 49 15.89	25 39 4.1	N. 17 45	42° N. 25 S.
13	♂ Scorpii	4	17 4 15	16 11 33.12	25 12 21.2	S. 62 37	44° S. 90 S.
13	♂ Scorpii	1	20 46 0	16 19 41.12	S. 26 4 28.9	S. 26 42	4° S. 76 S.
14	♂ Ophiuchi	4.5	17 29 25	17 5 35.52	S. 26 21 49.6	S. 67 14	59° S. 90 S.
15	♂ Sagittarii	5	7 52 26	17 37 33.93	27 45 49.1	N. 10 1	25° N. 33 S.
15	♂ Sagittarii	5	17 6 4	17 58 1.42	28 28 2.9	62 20	62° N. 33 N.
16	♂ Sagittarii	4.5	10 14 38	18 35 43.77	S. 27 8 51.8	N. 31 19	54° N. 11 S.
16	♂ Sagittarii	3	14 41 17	18 45 24.71	S. 26 29 14.6	N. 10 17	32° N. 33 S.
17	♂ Sagittarii	4.5	10 3 54	19 27 1.96	S. 25 13 44.4	N. 43 46	65° N. 3 N.
24	♂ Piscium	4	23 46 14	1 22 59.36	N. 14 31 34.0	S. 35 39	11° N. 73 S.
26	♂ Arietis	5	15 20 44	2 50 8.61	N. 20 42 11.0	N. 68 39	90° N. 39 N.
27	♂ Tauri	6	5 58 4	3 25 2.26	N. 23 55 45.9	N. 9 26	53° N. 19 S.
27	♂ Pleiadum	5.6	10 11 10	3 35 22.73	23 47 14.7	51 23	90° N. 21 N.
27	♂ Pleiadum	4.5	10 13 6	3 35 27.52	23 36 41.1	62 11	90° N. 34 N.
27	♂ Pleiadum	5	10 20 42	3 35 46.27	N. 23 57 59.6	N. 41 50	90° N. 11 N.
27	♂ Pleiadum	5	10 35 48	3 36 23.53	N. 23 52 7.3	N. 49 37	90° N. 19 N.
27	♂ Tauri	3	11 16 21	3 38 3.68	23 36 42.0	N. 70 7	90° N. 46 N.
Mar. 1	♂ Tauri	2	1 21 22	5 16 16.46	28 28 9.2	S. 56 8	14° S. 62 S.
1	♂ Tauri	4.5	11 30 52	5 43 22.04	N. 27 34 14.4	S. 2 27	41° N. 18 S.
2	♂ Geminor.	6	10 49 36	6 45 33.54	N. 25 34 12.7	N. 42 21	90° N. 15 N.
3	♂ Geminor.	4	5 42 25	7 34 52.94	24 46 28.7	S. 44 14	2° N. 65 S.
4	♂ Cancri	4.5	5 59 42	8 35 41.12	18 44 2.9	N. 61 32	90° N. 23 N.
5	♂ Leonis	5	18 2 22	9 59 30.43	N. 10 46 18.9	N. 32 22	77° N. 13 S.
6	♂ Leonis	5	18 22 27	10 52 23.50	N. 4 27 59.7	N. 21 49	64° N. 24 S.
7	♂ Leonis	4.5	11 42 53	11 28 51.10	N. 0 2 59.1	3 33	47° N. 40 S.
11	♂ Solitarii	6	17 1 53	15 0 37.64	S. 23 22 31.0	51 9	67° N. 9 N.
12	♂ Scorpii	5	11 39 48	15 41 27.73	S. 25 15 51.0	N. 22 29	47° N. 21 S.
		5	12 51 45	15 44 6.80	S. 24 50 55.3	S. 10 5	16° N. 54 S.
		3.4	15 11 46	15 49 16.80	25 39 7.2	N. 23 46	48° N. 19 S.
		4	1 13 12	16 11 34.07	25 12 23.8	S. 56 30	35° S. 90 S.
		1	4 51 49	16 19 42.07	S. 26 4 31.3	S. 20 33	2° N. 67 S.

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limit Parall
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	° ' "	Latit
Mar. 14	A Ophiuchi	4.5	1 21 16	17 5 36.48	S. 26 21 50.9	S. 61 0	47 S.
14	3 Sagittarii	5	15 38 10	17 37 34.86	27 45 49.6	N. 16 13	31 N.
15	Sagittarii	5	0 49 25	17 58 2.38	28 28 2.8	68 30	62 N.
15	♄ Sagittarii	4.5	17 56 18	18 35 44.64	S. 27 8 50.9	N. 37 19	61 N.
15	σ Sagittarii	3	22 23 1	18 45 25.56	S. 26 29 13.6	N. 16 14	38 N.
16	h ¹ Sagittarii	6	17 29 7	19 26 23.16	25 3 39.0	37 13	64 N.
16	h ² Sagittarii	4.5	17 47 50	19 27 2.74	25 13 42.6	N. 49 22	65 N.
18	ε Capricorni	5	18 52 52	21 6 57.18	S. 15 49 42.6	S. 63 18	30 S.
18	ε Capricorni	5	22 10 16	21 13 23.75	S. 17 30 27.6	N. 75 22	72 N.
25	ε Arietis	5	21 0 11	2 50 8.30	N. 20 42 9.2	60 28	90 N.
26	VENUS	-	3 6 58	3 4 44.82	22 0 28.9	42 8	90 N.
26	b Pleiadum	4.5	15 38 59	3 35 27.13	N. 23 36 39.4	N. 53 13	90 N.
26	e Pleiadum	5	15 46 31	3 35 45.87	N. 23 57 57.9	N. 32 52	82 N.
26	c Pleiadum	5	16 1 29	3 36 23.14	23 52 5.6	40 38	90 N.
26	d Pleiadum	5	16 14 5	3 36 54.51	23 27 1.9	67 17	90 N.
26	η Tauri	3	16 41 40	3 38 3.29	N. 23 36 40.4	N. 61 6	90 N.
26	f Pleiadum	5	17 21 53	3 39 43.70	N. 23 33 53.0	N. 68 53	90 N.
27	χ Tauri	6	6 27 53	4 12 55.66	25 15 4.8	N. 50 55	90 N.
28	β Tauri	2	6 43 16	5 16 15.98	28 28 8.6	S. 66 0	29 S.
28	C Tauri	4.5	16 57 47	5 43 21.54	N. 27 34 14.1	S. 12 24	31 N.
29	ε Geminor.	3	12 15 25	6 34 10.61	N. 25 17 2.7	N. 71 11	90 N.
30	κ Geminor.	4	11 55 23	7 34 52.53	24 46 29.7	S. 53 44	9 S.
31	δ Cancri	4.5	12 52 23	8 35 40.81	18 44 4.0	N. 53 3	90 N.
Apr. 2	A Leonis	5	1 57 55	9 59 30.29	N. 10 46 19.4	N. 26 33	70 N.
3	d Leonis	5	2 54 50	10 52 23.49	N. 4 27 59.2	N. 18 32	61 N.
3	v Leonis	4.5	20 35 43	11 28 51.18	N. 0 2 58.0	2 16	45 N.
8	b Scorpii	5	20 26 0	15 41 28.48	S. 25 15 53.7	32 45	58 N.
8	Λ ¹ Scorpii	5	21 37 6	15 44 7.54	S. 24 50 57.9	N. 0 15	25 N.
8	π Scorpii	3.4	23 55 29	15 49 17.56	S. 25 39 9.7	N. 34 14	59 N.
9	σ Scorpii	4	9 49 59	16 11 34.86	25 12 25.9	S. 45 32	22 S.
9	α Scorpii	1	13 26 8	16 19 42.88	26 4 33.3	9 25	12 N.
10	A Ophiuchi	4.5	9 43 2	17 5 37.36	S. 26 21 51.9	S. 49 1	32 S.
10	3 Sagittarii	5	23 53 8	17 37 35.77	S. 27 45 50.0	N. 28 39	46 N.
12	♄ Sagittarii	4.5	2 4 28	18 35 45.60	27 8 49.8	50 20	63 N.
12	σ Sagittarii	3	6 30 52	18 45 26.50	26 29 12.3	29 18	52 N.
13	h ² Sagittarii	4.5	1 57 2	19 27 3.66	S. 25 13 40.3	N. 62 33	65 N.

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon.

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of	At Greenwich Mean Time of ☿			Limiting Parallels.
			Apparent ☿ in R. A. of ☿ and *.	Apparent R. A. of ☿ and *.	Apparent Declination of *.	Diff. of Apparent Dec. of ☿ and *.	
			h m s	h m s	° ' "	☿ " "	Latitude.
Apr. 14	ν Capricorni	5	9 7 2	20 31 1'23	S. 18 41 35'5	S. 71 14	51 S. 90 S.
15	s Capricorni	5	3 21 16	21 6 57'93	15 49 39'1	S. 51 8	14 S. 90 S.
15	d' Capricorni	6	16 48 9	21 32 54'93	14 45 2'3	N. 42 8	72 N. 2 S.
15	d ² Capricorni	6	17 34 55	21 34 24'47	S. 15 7 16'0	N. 73 54	75 N. 46 N.
18	λ Piscium -	5	8 37 32	23 33 56'91	N. 0 54 25'3	S. 16 7	28 N. 59 S.
23	VENUS -	-	6 31 4	3 55 37'60	26 15 56'4	59 10	17 S. 64 S.
24	☿ Tauri -	4.5	22 53 0	5 43 21'15	27 34 13'2	S. 25 14	19 N. 39 S.
25	ε Geminor.	3	17 53 17	6 34 10'18	N. 25 17 2'4	N. 57 16	90 N. 32 N.
26	κ Geminor.	4	17 22 17	7 34 52'08	N. 24 46 30'2	S. 68 30	30 S. 65 S.
27	δ Cancri -	4.5	18 21 6	8 35 40'41	18 44 5'0	N. 38 6	88 N. 0
28	π ² Cancri -	6	7 42 25	9 6 28'53	15 35 51'4	60 14	90 N. 20 N.
29	Α Leonis -	5	7 52 2	9 59 29'99	N. 10 46 20'5	N. 13 2	55 N. 29 S.
30	d Leonis -	5	9 16 18	10 52 23'29	N. 4 28 0'0	N. 7 12	50 N. 36 S.
30	p ² Leonis -	5.6	12 26 8	10 58 49'85	2 48 54'3	N. 57 25	90 N. 10 N.
May 1	υ Leonis -	4.5	3 18 35	11 28 51'05	N. 0 2 58'3	S. 7 0	37 N. 50 S.
3	75 Virginis -	6	12 41 17	13 24 24'98	S. 14 32 51'7	N. 34 1	72 N. 11 S.
5	Solitarii -	6	10 3 43	15 0 38'74	S. 23 22 36'6	N. 65 9	67 N. 30 N.
6	b Scorp̄ii -	5	4 30 34	15 41 29'04	25 15 55'8	39 50	65 N. 2 S.
6	Α ¹ Scorp̄ii -	5	5 41 39	15 44 8'11	24 50 59'9	7 28	32 N. 35 S.
6	π Scorp̄ii -	3.4	7 59 59	15 49 18'14	S. 25 39 11'8	N. 41 42	64 N. 0
6	m Scorp̄ii -	6	12 5 23	15 58 29'69	S. 25 53 53'5	N. 33 19	58 N. 9 S.
6	σ Scorp̄ii -	4	17 53 44	16 11 35'48	25 12 27'5	S. 37 2	13 S. 90 S.
6	α Scorp̄ii -	1	21 29 28	16 19 43'52	26 4 34'8	0 33	20 N. 44 S.
7	Α Ophiuchi	4.5	17 42 51	17 5 38'10	S. 26 21 52'7	S. 38 16	20 S. 90 S.
8	3 Sagittarii	5	7 50 8	17 37 36'61	S. 27 45 50'3	N. 40 36	62 N. 0
9	λ Sagittarii	4	1 59 13	18 18 12'72	25 30 7'5	S. 62 20	47 S. 90 S.
9	φ Sagittarii	4.5	9 57 37	18 35 46'48	27 8 48'8	N. 64 11	63 N. 36 N.
9	σ Sagittarii	3	14 23 44	18 45 27'39	S. 26 29 11'0	N. 43 26	64 N. 3 N.
11	ν Capricorni	5	17 9 48	20 31 2'11	S. 18 41 31'8	S. 54 45	22 S. 90 S.
12	s Capricorni	5	11 34 17	21 6 58'78	15 49 34'9	S. 34 22	4 N. 86 S.
13	37 Aquarii -	6	16 42 13	22 2 4'10	11 35 51'5	N. 63 37	78 N. 23 N.
13	θ Aquarii -	4.5	20 8 11	22 8 28'03	S. 8 34 14'1	S. 73 23	43 S. 90 S.
15	λ	5	17 56 3	23 33 57'58	N. 0 54 29'3	S. 2 56	40 N. 46 S.
18	η		0 12 9	1 22 59'87	14 31 33'9	S. 37 6	9 N. 74 S.
23			21 31	6 34 9'97	25 17 1'7	N. 46 0	90 N. 19 N.
23			36	6 52 44'15	N. 24 26 16'9	N. 58 44	90 N. 30 N.

ELEMENTS

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				Apparent R. A. of ♄ and *.	Apparent Declination of *.	Diff. of Apparent Dec. of ♄ and *.	
			h m s	h m s	° ' "	° ' "	Latitude
May 25	♄ Canceri	-4.5	0 35 53	8 35 40.07	N. 18 44 5.7	N. 22 43	66 N. 14
26	♌ Leonis	-5	13 33 3	9 59 29.67	10 46 21.8	S. 3 24	40 N. 43
27	♌ Leonis	-5	14 49 38	10 52 23.01	4 28 1.4	8 36	35 N. 50
28	♌ Leonis	-4.5	8 53 33	11 28 50.81	N. 0 25 9.5	S. 21 42	24 N. 64
June 2	♏ Scorp̄ii	-5	11 20 5	15 41 29.35	S. 25 15 57.2	N. 39 39	65 N. 2
2	♏ Scorp̄ii	-5	12 31 45	15 44 8.44	24 51 1.2	7 25	31 N. 35
2	♏ Scorp̄ii	-3.4	14 51 9	15 49 18.48	25 39 13.2	N. 41 57	64 N. 1
3	♏ Scorp̄ii	-4	0 49 2	16 11 35.89	S. 25 12 28.6	S. 35 34	12 S. 90
3	♏ Scorp̄ii	-1	4 26 5	16 19 43.96	S. 26 4 36.0	N. 1 21	22 N. 41
4	♏ Ophiuchi	4.5	0 45 4	17 5 38.65	26 21 53.4	S. 34 4	16 S. 90
4	♏ Sagittarii	5	14 54 39	17 37 37.23	27 45 50.7	N. 46 20	62 N. 8
5	♏ Sagittarii	4	9 5 18	18 18 13.42	S. 25 30 7.0	S. 54 44	36 S. 90
5	♏ Sagittarii	3	21 30 26	18 45 28.15	S. 26 29 10.1	N. 52 15	64 N. 15
7	♏ Capricorni	6	13 11 58	20 8 44.10	22 17 31.9	N. 70 38	68 N. 49
8	♏ Capricorni	5	0 22 51	20 31 3.00	18 41 28.2	S. 41 44	7 S. 90
8	♏ Capricorni	5.6	13 43 10	20 57 3.39	S. 17 51 25.1	N. 45 3	72 N. 3
8	♏ Capricorni	5	18 54 3	21 6 59.65	S. 15 49 30.7	S. 20 13	17 N. 65
10	♏ Aquarii	-4.5	3 49 3	22 8 28.93	S. 8 34 8.7	S. 58 1	18 S. 90
12	♏ Piscium	-5	2 26 15	23 33 58.44	N. 0 54 34.7	N. 12 1	55 N. 32
14	♏ Piscium	-4	9 51 52	1 23 0.62	N. 14 31 37.5	S. 26 14	19 N. 63
15	♏ Arietis	-6	17 14 15	2 33 25.10	N. 19 20 1.7	N. 69 24	90 N. 37
16	♏ Arietis	-5	0 11 17	2 50 9.18	20 42 9.9	60 12	90 N. 26
16	♏ Pleiadum	4.5	18 11 0	3 35 27.70	23 36 38.1	45 46	90 N. 15
21	♄ Canceri	-4.5	8 58 1	8 35 39.94	N. 18 44 5.9	N. 12 54	55 N. 22
22	♌ Leonis	-5	20 48 30	9 59 29.45	N. 10 46 22.9	S. 15 57	29 N. 55
23	♌ Leonis	-5	21 25 26	10 52 22.76	4 28 2.8	21 58	24 N. 64
24	♌ Leonis	-4.5	15 6 31	11 28 50.56	N. 0 3 1.0	S. 35 6	12 N. 81
29	♏ Scorp̄ii	-5	17 12 28	15 41 29.42	S. 25 15 58.0	N. 34 21	60 N. 8
29	♏ Scorp̄ii	-5	18 24 38	15 44 8.50	S. 24 51 1.9	N. 2 13	26 N. 41
29	♏ Scorp̄ii	-3.4	20 45 3	15 49 18.56	25 39 14.0	N. 36 57	62 N. 5
30	♏ Scorp̄ii	-4	6 47 16	16 11 36.02	25 12 29.4	S. 39 41	16 S. 90
30	♏ Scorp̄ii	-1	10 25 53	16 19 44.12	S. 26 4 36.8	S. 2 27	18 N. 45
July 1	♏ Ophiuchi	4.5	6 53 2	17 5 38.92	S. 26 21 54.1	S. 36 4	19 S. 90
1	♏ Ophiuchi	6	10 20 38	17 13 25.78	27 58 59.4	N. 57 58	62 N. 25
1	♏ Sagittarii	5	21 7 24	17 37 37.58	27 45 51.3	N. 45 33	62 N. 7
2	♏ Sagittarii	4	15 22 42	18 18 13.86	S. 25 30 6.9	S. 54 0	35 S. 90

ELEMENTS

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				Apparent R. A. of ♄ and ♎.	Apparent Declination of ♎.	Diff. of Apparent Dec. of ♄ and ♎.	
			h m s	h m s	° ′ ″	° ′ ″	Latitude.
July 3	♄ Sagittarii	3	3 50 0	18 45 28.68	S. 26 29 9.9	N. 54 1	64 N. 18 N.
3	♄ Sagittarii	6	13 18 6	19 5 51.63	25 31 22.1	45 52	64 N. 6 N.
4	♄ Sagittarii	6	11 20 29	19 52 0.58	23 9 55.8	N. 58 6	67 N. 22 N.
5	♄ Capricorni	5	6 45 29	20 31 3.69	S. 18 41 25.5	S. 36 7	2 S. 90 S.
5	19 Capricorni	6	14 19 15	20 45 52.46	S. 18 31 2.7	N. 29 53	65 N. 13 S.
6	♄ Capricorni	5	1 17 52	21 7 0.42	15 49 27.1	S. 13 24	24 N. 57 S.
7	♄ Aquarii	4.5	10 19 58	22 8 29.73	S. 8 34 3.9	S. 49 26	8 S. 90 S.
9	♄ Piscium	5	9 28 3	23 33 59.29	N. 0 54 40.4	N. 21 46	66 N. 23 S.
9	22 Piscium	6	14 51 24	23 43 52.21	N. 2 3 6.6	N. 28 52	75 N. 16 S.
11	♄ Piscium	4	18 8 40	1 23 1.50	14 31 42.3	S. 17 27	27 N. 54 S.
13	♄ Arietis	5	9 32 42	2 50 10.02	20 42 13.1	N. 66 57	90 N. 36 N.
14	♄ Pleiadum	4.5	4 0 40	3 35 28.52	N. 23 36 40.3	N. 51 18	90 N. 21 N.
14	♄ Pleiadum	5	4 8 4	3 35 47.26	N. 23 57 58.6	N. 30 54	78 N. 2 N.
14	♄ Pleiadum	5	4 22 46	3 36 24.52	23 52 6.3	38 34	90 N. 9 N.
14	♄ Pleiadum	5	4 35 8	3 36 55.88	23 27 2.8	65 7	90 N. 38 N.
14	♄ Tauri	3	5 2 13	3 38 4.65	N. 23 36 41.1	N. 58 45	90 N. 30 N.
14	♄ Pleiadum	5	5 41 41	3 39 45.04	N. 23 33 53.8	N. 66 13	90 N. 39 N.
20	♄ Leonis	5	6 11 43	9 59 29.37	10 46 23.8	S. 21 1	25 N. 59 S.
21	♄ Leonis	5	6 3 27	10 52 22.59	4 28 4.1	28 5	19 N. 70 S.
21	♄ Leonis	4.5	23 11 12	11 28 50.36	N. 0 3 2.6	S. 41 39	6 N. 89 S.
26	♄ Scorpii	5	23 3 50	15 41 29.23	S. 25 15 58.1	N. 29 56	55 N. 13 S.
27	♄ Scorpii	5	0 15 49	15 44 8.33	24 51 2.0	S. 2 9	22 N. 45 S.
27	♄ Scorpii	3.4	2 35 54	15 49 18.38	25 39 14.2	N. 32 40	58 N. 10 S.
27	♄ Scorpii	4	12 37 26	16 11 35.88	S. 25 12 29.6	S. 43 36	21 S. 90 S.
27	♄ Scorpii	1	16 16 3	16 19 43.99	S. 26 4 37.2	S. 6 14	15 N. 49 S.
28	♄ Ophiuchi	4.5	12 45 6	17 5 38.88	26 21 54.6	S. 39 7	22 S. 90 S.
29	3 Sagittarii	5	3 2 0	17 37 37.61	27 45 52.2	N. 43 1	62 N. 4 N.
29	♄ Sagittarii	4	21 20 55	18 18 13.99	S. 25 30 7.3	S. 55 54	38 S. 90 S.
30	♄ Sagittarii	3	9 50 27	18 45 28.86	S. 26 29 10.4	N. 52 31	64 N. 16 N.
Aug. 1	♄ Capricorni	5	12 47 56	20 31 4.11	18 41 24.2	S. 36 4	1 S. 90 S.
2	♄ Capricorni	5	7 17 49	21 7 0.90	15 49 25.1	12 52	24 N. 57 S.
3	♄ Aquarii	4.5	16 13 37	22 8 30.32	S. 8 34 0.4	S. 48 14	6 S. 90 S.
3	♄ Aquarii	6	16 14 51	22 8 32.58	S. 9 49 26.0	N. 27 28	70 N. 17 S.
5	♄ Piscium	5	15 19 56	23 34 0.01	N. 0 54 45.4	N. 23 29	68 N. 21 S.
8	♄ Piscium	4	0 36 23	1 23 2.38	14 31 47.7	S. 15 53	28 N. 53 S.
9	♄ Arietis	5	16 58 18	2 50 10.92	N. 20 42 17.0	N. 68 6	90 N. 40 N.

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limit Paral
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	♄ ' "	Latit °
Aug. 10	g Pleiadum	5.6	11 58 48	3 35 24.64	N.23 47 16.8	N.41 27	90 N.
10	b Pleiadum	4.5	12 0 45	3 35 29.42	23 36 43.3	52 14	90 N.
10	e Pleiadum	5	12 8 24	3 35 48.17	23 58 1.5	31 50	80 N.
10	c Pleiadum	5	12 23 34	3 36 25.42	N.23 52 9.2	N.39 30	90 N.
10	d Pleiadum	5	12 36 20	3 36 56.79	N.23 27 5.8	N.66 3	90 N.
10	η Tauri -	3	13 4 17	3 38 5.54	23 36 44.0	59 39	90 N.
10	f Pleiadum	5	13 45 3	3 39 45.94	23 33 56.7	67 8	90 N.
10	h Pleiadum	5.6	13 45 14	3 39 46.41	N.23 38 57.6	N.62 8	90 N.
12	C Tauri -	4.5	13 5 4	5 43 22.61	N.27 34 10.7	S.34 9	10 N.
12	139 Tauri -	5.6	14 51 2	5 48 10.01	25 55 44.6	N.61 29	90 N.
13	ε Geminor.	3	7 47 17	6 34 11.17	25 16 59.7	42 17	90 N.
13	ω' Geminor.	6	14 39 1	6 52 45.19	N.24 26 14.8	N.53 38	90 N.
18	ν Leonis -	4.5	9 3 34	11 28 50.25	N. 0 3 3.7	S.40 56	7 N.
23	b Scorpii -	5	5 54 46	15 41 28.85	S.25 15 57.3	N.31 54	57 N.
23	A' Scorpii -	5	7 5 41	15 44 7.95	24 51 1.2	S. 0 11	24 N.
23	π Scorpii -	3.4	9 23 45	15 49 18.01	S.25 39 13.5	N.34 38	59 N.
23	σ Scorpii -	4	19 17 37	16 11 35.53	S.25 12 29.2	S.41 37	18 S.
23	α Scorpii -	1	22 53 49	16 19 43.64	26 4 36.9	4 15	17 N.
24	A Ophiuchi	4.5	19 12 55	17 5 38.56	26 21 54.8	S.37 8	19 S.
25	3 Sagittarii	5	9 26 3	17 37 37.33	S.27 45 52.7	N.44 56	62 N.
26	λ Sagittarii	4	3 43 6	18 18 13.77	S.25 30 8.0	S.54 7	35 S.
26	σ Sagittarii	3	16 12 39	18 45 28.71	26 29 11.3	N.54 10	64 N.
28	ν Capricorni	5	19 11 36	20 31 4.18	18 41 24.1	S.35 24	1 S.
29	θ Capricorni	5.6	8 29 47	20 57 4.74	S.17 51 20.0	N.52 15	72 N.
29	s Capricorni	5	13 39 30	21 7 1.05	S.15 49 24.5	S.12 44	24 N.
30	θ Aquarii -	4.5	22 25 41	22 8 30.61	S. 8 33 58.4	S.49 19	7 S.
Sept. 1	λ Piscium -	5	21 8 3	23 34 0.48	N. 0 54 48.9	N.20 23	64 N.
4	η Piscium -	4	6 4 14	1 23 3.07	N.14 31 52.4	S.21 14	23 N.
4	101 Piscium -	6	8 10 41	1 27 20.09	N.13 51 14.6	N.45 55	90 N.
5	ε Arietis -	5	22 40 31	2 50 11.75	20 42 21.0	61 49	90 N.
6	b Pleiadum	4.5	18 1 37	3 35 30.30	23 36 46.5	45 46	90 N.
6	e Pleiadum	5	18 9 25	3 35 49.05	N.23 58 4.7	N.25 22	71 N.
6	c Pleiadum	5	18 24 53	3 36 26.30	N.23 52 12.4	N.33 1	83 N.
6	d Pleiadum	5	18 37 54	3 36 57.66	23 27 8.9	59 34	90 N.
6	η Tauri -	3	19 6 26	3 38 6.43	23 36 47.1	53 11	90 N.
6	f Pleiadum	5	19 48 1	3 39 46.83	N.23 33 59.8	N.60 39	90 N.

ELEMENTS

For facilitating the Computation of Occultations of certain Stars by the Moon.

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limiting Parallels.
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	♄ ' "	Latitude.
Sept. 8	C Tauri -	4.5	20 26 35	5 43 23.49	N. 27 34 11.0	S. 40 19	3 N. 59 S.
9	ε Geminor.	3	15 47 21	6 34 11.97	25 16 59.1	N. 36 34	88 N. 11 N.
11	δ Cancri -	4.5	15 31 3	8 35 40.90	18 44 2.7	6 31	49 N. 28 S.
11	VENUS -	-	19 50 26	8 46 11.50	N. 17 35 17.0	N. 20 35	64 N. 18 S.
12	18 Leonis -	6	17 39 54	9 37 50.83	N. 12 32 21.7	N. 17 5	59 N. 24 S.
19	b Scorpii -	5	14 10 7	15 41 28.43	S. 25 15 55.8	41 2	65 N. 1 S.
19	A' Scorpii -	5	15 19 34	15 44 7.52	24 50 59.8	8 58	33 N. 34 S.
19	π Scorpii -	3.4	17 34 50	15 49 17.58	S. 25 39 12.1	N. 43 50	64 N. 2 N.
20	σ Scorpii -	4	3 17 15	16 11 35.07	S. 25 12 28.0	S. 32 16	8 S. 84 S.
20	α Scorpii -	1	6 49 33	16 19 43.18	26 4 35.9	N. 5 9	25 N. 37 S.
21	A Ophiuchi	4.5	2 49 45	17 5 38.09	26 21 54.3	S. 27 38	10 S. 77 S.
21	γ Ophiuchi	6	6 14 7	17 13 24.97	S. 27 59 0.2	N. 66 30	62 N. 41 N.
21	3 Sagittarii	5	16 52 59	17 37 36.87	S. 27 45 52.6	N. 54 24	62 N. 18 N.
22	g Sagittarii	5.6	6 29 24	18 8 9.70	27 5 40.5	N. 37 37	61 N. 3 S.
22	λ Sagittarii	4	11 1 23	18 18 13.34	25 30 8.3	S. 44 49	24 S. 90 S.
22	σ Sagittarii	3	23 27 24	18 45 28.30	S. 26 29 12.0	N. 63 17	64 N. 33 N.
23	ψ Sagittarii	6	8 55 42	19 5 51.36	S. 25 31 24.1	N. 55 7	64 N. 19 N.
24	Sagittarii	6	7 0 2	19 52 0.58	23 9 57.1	N. 66 58	67 N. 39 N.
25	v Capricorni	5	2 25 26	20 31 3.93	18 41 25.0	S. 28 1	6 N. 76 S.
25	19 Capricorni	6	9 58 25	20 45 52.80	S. 18 31 2.0	N. 37 36	71 N. 5 S.
25	s Capricorni	5	20 54 36	21 7 0.89	S. 15 49 25.1	S. 6 25	30 N. 49 S.
27	θ Aquarii -	4.5	5 38 58	22 8 30.58	S. 8 33 58.1	S. 45 28	3 S. 90 S.
29	λ Piscium -	5	4 1 23	23 34 0.66	N. 0 54 50.7	N. 19 40	63 N. 24 S.
29	22 Piscium -	6	9 19 17	23 43 53.64	N. 2 3 17.4	N. 25 59	70 N. 18 S.
Oct. 1	η Piscium -	4	12 8 27	1 23 3.52	N. 14 31 55.8	S. 27 48	17 N. 65 S.
1	101 Piscium -	6	14 12 55	1 27 20.56	13 51 18.0	N. 39 10	90 N. 1 S.
3	ε Arietis -	5	4 11 28	2 50 12.44	20 42 24.4	52 0	90 N. 19 N.
3	b Pleiadum	4.5	23 23 36	3 35 31.07	N. 23 36 49.3	N. 34 49	86 N. 6 N.
3	e Pleiadum	5	23 31 21	3 35 49.82	N. 23 58 7.6	N. 14 25	58 N. 12 S.
3	c Pleiadum	5	23 46 45	3 36 27.07	23 52 15.2	22 3	67 N. 5 S.
3	d Pleiadum	5	23 59 43	3 36 58.43	23 27 11.7	48 36	90 N. 20 N.
4	η Tauri -	3	0 28 6	3 38 7.20	N. 23 36 49.9	N. 42 11	90 N. 13 N.
4	f Pleiadum	5	1 9 30	3 39 47.60	N. 23 34 2.5	N. 49 37	90 N. 21 N.
4	χ Tauri -	6	14 37 59	4 12 59.37	25 15 10.5	N. 25 12	71 N. 1 N.
6	C Tauri -	4.5	2 0 59	5 43 24.44	27 34 11.2	S. 52 54	11 S. 62 S.
6	ε Geminor.			24 12.86	N. 25 16 58.2	N. 23 51	69 N. 0

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limit Paralle
			Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.		
			^h ^m ^s	^h ^m ^s	[°] ['] ["]	[°] ['] ["]	Latitu [°] ['] ["]
Oct. 8	♄ Cancrī	- 4.5	22 44 2	8 35 41.62	N. 18 43 59.9	S. 4 47	38 N.
10	A Leonis	- 5	11 25 57	9 59 30.32	10 46 19.2	29 59	16 N.
11	d Leonis	- 5	11 44 50	10 52 23.15	4 28 2.0	31 44	15 N.
12	v Leonis	- 4.5	4 49 15	11 28 50.65	N. 0 3 2.2	S. 41 10	6 N.
16	b Scorpī	- 5	23 18 56	15 41 28.15	S. 25 15 54.0	N. 52 18	65 N.
17	A ¹ Scorpī	- 5	0 27 21	15 44 7.23	24 50 58.0	20 20	44 N.
17	π Scorpī	- 3.4	2 40 35	15 49 17.28	25 39 10.3	N. 55 22	64 N.
17	σ Scorpī	- 4	12 14 8	16 11 34.74	S. 25 12 26.4	S. 20 5	3 N.
17	α Scorpī	- 1	15 43 11	16 19 42.83	S. 26 4 34.3	N. 17 34	38 N.
18	A Ophiuchi	4.5	11 25 40	17 5 37.68	26 21 53.1	S. 14 7	3 N.
19	3 Sagittarii	5	1 17 46	17 37 36.40	27 45 51.7	N. 68 33	62 N.
19	λ Sagittarii	4	19 14 26	18 18 12.87	S. 25 30 8.0	S. 30 3	9 S.
22	π Capricorni	5	4 0 17	20 18 16.66	S. 18 43 30.0	S. 71 55	58 S.
22	v Capricorni	5	10 27 9	20 31 3.52	18 41 26.0	S. 12 59	21 N.
23	s Capricorni	5	5 0 30	21 7 0.52	15 49 26.3	N. 8 0	44 N.
24	θ Aquarii	- 4.5	13 55 4	22 8 30.32	S. 8 33 59.0	S. 33 7	9 N.
26	λ Piscium	- 5	12 23 45	23 34 0.58	N. 0 54 50.8	N. 27 3	72 N.
28	η Piscium	- 4	20 2 18	1 23 3.73	14 31 57.8	S. 28 24	16 N.
30	ε Arietis	- 5	11 19 54	2 50 12.90	20 42 26.6	N. 45 47	90 N.
31	b Pleiadum	4.5	6 6 39	3 35 31.68	N. 23 36 51.4	N. 26 14	72 N.
31	e Pleiadum	5	6 14 14	3 35 50.43	N. 23 58 9.7	N. 5 49	48 N.
31	c Pleiadum	5	6 29 17	3 36 27.68	23 52 17.4	13 26	56 N.
31	d Pleiadum	5	6 41 57	3 36 59.04	23 27 13.8	39 57	90 N.
31	η Tauri	- 3	7 9 43	3 38 7.80	N. 23 36 52.0	N. 33 29	83 N.
31	f Pleiadum	5	7 50 12	3 39 48.22	N. 23 34 4.6	N. 40 50	90 N.
31	h Pleiadum	5.6	7 50 23	3 39 48.69	23 39 5.5	N. 35 50	87 N.
Nov. 2	C Tauri	- 4.5	7 45 5	5 43 25.30	27 34 11.3	S. 66 27	31 S.
2	139 Tauri	- 5.6	9 34 33	5 48 12.67	N. 25 55 44.9	N. 29 3	76 N.
3	z Geminor.	3	3 12 32	6 34 13.79	N. 25 16 57.0	N. 8 55	51 N.
3	ω ¹ Geminor.	6	10 25 4	6 52 47.77	24 26 10.9	N. 20 5	64 N.
5	δ Cancrī	- 4.5	4 17 27	8 35 42.51	18 43 56.1	S. 21 24	23 N.
6	A Leonis	- 5	17 35 18	9 59 31.07	N. 10 46 14.9	S. 45 26	2 N.
7	d Leonis	- 5	18 28 33	10 52 23.81			
8	v Leonis	- 4.5	11 59 2	11 28 51.15			
14	A Ophiuchi	4.5	20 8 12	17 5 2.2			
16	λ Sagittarii	4	3 43 42	18 18			

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon.

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limiting Parallels.
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			^h ^m ^s	^h ^m ^s	[°] ['] ["]	[°] ['] ["]	Latitude.
Nov. 17	χ ³ Sagittarii	6	6 23 33	19 15 55.45	S. 24 15 58.8	N. 38 46	66° N. 2° S.
17	MARS - -	-	15 14 27	19 35 21.25	23 11 19.8	N. 37 34	66° N. 4° S.
18	π Capricorni	5	12 15 39	20 18 16.27	18 43 30.7	S. 55 10	24° S. 90° S.
18	ρ Capricorni	5	13 2 58	20 19 50.55	S. 18 19 53.0	S. 71 29	55° S. 90° S.
18	ν Capricorni	5	18 42 53	20 31 3.13	S. 18 41 26.8	N. 4 0	37° N. 38° S.
19	s Capricorni	5	13 20 2	21 7 0.13	15 49 27.5	N. 25 25	62° N. 17° S.
20	θ Aquarii -	4.5	22 30 39	22 8 29.98	S. 8 34 0.4	S. 15 57	25° N. 59° S.
22	λ Piscium -	5	21 33 14	23 34 0.35	N. 0 54 49.8	N. 41 25	90° N. 3° S.
25	η Piscium -	4	5 37 31	1 23 3.73	N. 14 31 58.3	S. 20 48	23° N. 57° S.
25	101 Piscium -	6	7 40 9	1 27 20.78	13 51 20.2	N. 45 33	90° N. 5° N.
26	ε Arietis -	5	20 43 3	2 50 13.13	20 42 27.8	47 30	90° N. 14° N.
27	g Pleiadum	5.6	15 11 22	3 35 27.25	N. 23 47 26.4	N. 14 24	57° N. 12° S.
27	b Pleiadum	4.5	15 13 16	3 35 32.03	N. 23 36 52.7	N. 25 11	70° N. 3° S.
27	e Pleiadum	5	15 20 43	3 35 50.79	23 58 11.2	4 44	47° N. 20° S.
27	c Pleiadum	5	15 35 30	3 36 28.04	23 52 18.8	12 18	55° N. 14° S.
27	d Pleiadum	5	15 47 57	3 36 59.40	N. 23 27 15.1	N. 38 48	90° N. 10° N.
27	η Tauri - -	3	16 15 12	3 38 8.17	N. 23 36 53.2	N. 32 16	80° N. 4° N.
27	f Pleiadum	5	16 54 57	3 39 48.59	23 34 5.9	39 31	90° N. 11° N.
27	h Pleiadum	5.6	16 55 8	3 39 49.06	23 39 6.8	34 31	84° N. 6° N.
29	125 Tauri - -	6	10 42 32	5 29 58.91	N. 25 48 14.6	N. 37 21	90° N. 18° N.
29	C Tauri - -	4.5	15 41 24	5 43 26.01	N. 27 34 11.5	S. 74 16	48° S. 62° S.
29	139 Tauri - -	5.6	17 27 49	5 48 13.37	25 55 44.8	N. 21 1	65° N. 1° N.
30	ε Geminor.	3	10 35 50	6 34 14.59	25 16 55.9	S. 1 14	41° N. 23° S.
Dec. 2	δ Cancrī -	4.5	10 25 34	8 35 43.42	N. 18 43 52.3	S. 36 8	10° N. 67° S.
2	α ² Cancrī -	6	15 55 15	8 48 46.05	N. 16 10 57.4	N. 48 30	90° N. 8° N.
3	A Leonis -	5	23 11 7	9 59 31.96	10 46 9.8	S. 61 37	15° S. 79° S.
4	d Leonis -	5	23 59 43	10 52 24.70	4 27 52.4	60 54	14° S. 86° S.
5	ν Leonis -	4.5	17 34 59	11 28 52.08	N. 0 2 53.4	S. 67 23	23° S. 90° S.
15	π Capricorni	5	20 2 17	20 18 16.08	S. 18 43 31.0	S. 44 30	12° S. 90° S.
15	ρ Capricorni	5	20 49 33	20 19 50.35	18 19 53.4	S. 60 45	32° S. 90° S.
16	ν Capricorni	5	2 29 13	20 31 2.91	18 41 27.2	N. 15 7	48° N. 27° S.
16	s Capricorni	5	21 7 9	21 6 59.88	S. 15 49 28.3	N. 37 40	74° N. 5° S.
	θ Aquarii -	4.5	6 28 7	22 8 29.68	S. 8 34 1.9	S. 2 24	38° N. 45° S.
	ι Aquarii -	6	8 20 53	22 11 53.11	S. 8 36 41.7	N. 23 56	66° N. 19° S.
	π Piscium -	5	6 9 49	23 34 0.06	N. 0 54 48.1	54 55	90° N. 12° N.
	λ Piscium -	6	5 52 22	0 17 33.68	N. 6 49 12.7	N. 19 3	62° N. 23° S.

ELEMENTS

for facilitating the Computation of Occultations of certain Stars by the Moon

Day of the Month.	Star's Name.	Magnitude.	Greenwich Mean Time of Apparent ♄ in R. A. of ♄ and ♀.	At Greenwich Mean Time of ♄			Limiting Parallel
				Apparent R. A. of ♄ and ♀.	Apparent Declination of ♀.	Diff. of Apparent Dec. of ♄ and ♀.	
			h m s	h m s	° ' "	♄ ' "	Latitud °
Dec. 22	η Piscium -	4	15 25 2	1 23 3'54	N.14 31 57.7	S.10 27	32 N. 4
24	ε Arietis -	5	7 11 36	2 50 13'11	20 42 28'1	N.54 12	90 N. 2
25	b Pleiadum	4.5	1 52 11	3 35 32'12	23 36 53'4	29 55	77 N.
25	e Pleiadum	5	1 59 41	3 35 50'88	N.23 58 11'9	N. 9 27	52 N. 1
25	c Pleiadum	5	2 14 34	3 36 28'14	N.23 52 19'5	N.17 0	60 N. 1
25	d Pleiadum	5	2 27 5	3 36 59'50	23 27 15'7	43 28	90 N. 1
25	η Tauri -	3	2 54 29	3 38 8'26	23 36 53'9	36 53	89 N.
25	f Pleiadum	5	3 34 28	3 39 48'69	N.23 34 6'5	N.44 4	90 N. 1
27	C Tauri -	4.5	2 7 58	5 43 26'46	N.27 34 12'1	S.74 45	47 S. 6
27	ε Geminor.	3	20 41 23	6 34 15'15	25 16 55'5	S. 3 40	39 N. 2
29	θ Cancri	5.6	13 52 4	8 22 37'14	18 37 23'1	N.28 19	72 N.
29	δ Cancri	4.5	19 7 44	8 35 44'20	N.18 43 49'2	S.43 5	4 N. 7
31	A Leonis -	5	6 37 45	9 59 32'86	N.10 46 4'7	S.71 0	26 S. 7
31	z Leonis -	6	13 25 47	10 14 45'96	N. 7 20 30'1	N.28 56	71 N. 1

ECLIPSES OF THE SUN AND MOON.

In the Year 1841 there will be four Eclipses of the Sun and two of the Moon.

I.—A Partial Eclipse of the SUN, Jan. 22, 1841, invisible at Greenwich.

Begins on the Earth generally at 4^h 55^m.1, Mean Time at Greenwich,
in Longitude 82° 7' E. of Greenwich, and Latitude 68° 19' S.

Greatest Eclipse at 5^h 23^m.9. Mag. (Sun's diam. = 1) 0.032,
in Longitude 56° 49' E. of Greenwich, and Latitude 63° 20' S.

Ends on the Earth generally at 5^h 52^m.8,
in Longitude 37° 31' E. of Greenwich, and Latitude 56° 46' S.

This Eclipse will only be visible in a small portion of the Southern Ocean:

II.—A total Eclipse of the MOON, Feb. 5, 1841, visible at Greenwich.

	h	m	
First contact with Penumbra	11	24	0
First contact with dark Shadow	12	20	3
First total Immersion in dark Shadow	13	17	7
Middle of Eclipse	14	6	5
Last total Immersion in dark Shadow	14	55	3
Last contact with dark Shadow	15	52	7
Last contact with Penumbra	16	49	0

Mean Time at
Greenwich.

Magnitude of the Eclipse (Moon's diameter = 1) 1.719, on the Southern limb.

At these times respectively the Moon will be in the Zenith of the places whose positions are,

Longitude	°	'		Latitude	°	'	
11	8	E.	} of Greenwich.	16	32	N.	
2	25	W.		16	18		
16	15			16	4		
27	59			15	52		
39	44			15	40		
53	33			15	26		
67	7	W.		15	12	N.	

from North Pole of { first contact with Shadow 118°, towards the East.
last contact with Shadow 71°, towards the West.

III.—*A Partial Eclipse of the SUN, Feb. 20-21, 1841, invisible at Greenwich.*

Begins on the Earth generally Feb. 20^d 21^h 53^m.9, Mean Time at Greenwich
in Longitude 46° 8' W. of Greenwich, and Latitude 39° 53' N.

Greatest Eclipse, Feb 20^d 23^h 4^m.0. Mag. (Sun's diam. = 1) 0.209,
in Longitude 52° 34' W. of Greenwich, and Latitude 61° 39' N.

Ends on the Earth generally Feb. 21^d 0^h 14^m.1,
in Longitude 20° 10' W. of Greenwich, and Latitude 78° 55' N.

This Eclipse will be visible in the North Atlantic Ocean, Iceland, and Eastern Greenland.

IV.—*A Partial Eclipse of the SUN, July 18, 1841, invisible at Greenwich.*

Begins on the Earth generally at 0^h 46^m.2, Mean Time at Greenwich,
in Longitude 140° 38' W. of Greenwich, and Latitude 59° 34' N.

Greatest Eclipse at 2^h 24^m.6. Mag. (Sun's diam. = 1) 0.657,
in Longitude 106° 28' E. of Greenwich, and Latitude 63° 53' N.

Ends on the Earth generally at 4^h 3^m.0,
in Longitude 44° 49' E. of Greenwich, and Latitude 32° 33' N.

This Eclipse will be visible in Baffin's Bay, Greenland, Iceland, the North Ocean, Norway, Sweden, Lapland, Finland, Russia in Europe, Prussia, Italy, Germany, Scotland, and the North of France.

V.—*A Total Eclipse of the MOON, Aug. 1-2, 1841, invisible at Greenwich.*

	h	m	s	
First contact with Penumbra - - - -	1	18	54.0	Mean Time at Greenwich.
First contact with dark Shadow - - -	1	20	3.5	
First total Immersion in dark Shadow	1	21	8.6	
Middle of Eclipse - - - - -	1	22	0.8	
Last total Immersion in dark Shadow	1	22	52.9	
Last contact with dark Shadow - - -	1	23	58.1	
Last contact with Penumbra - - - -	2	1	7.6	

Magnitude of the Eclipse (Moon's diameter = 1) 1.666, on the Southern Limit.

At these times respectively the Moon will be in the Zenith of the places whose positions are,

Longitude	°	'		Latitude	°	'	
103	26	W.	of Greenwich.	18	23	S.	
120	18			18	11		
136	5			17	59		
148	46			17	50		
161	23			17	41		
177	12	W.		17	29		
165	56	E.		17	17	S.	

Angle from North Pole of { first contact with Shadow 74°, towards the
last contact with Shadow 116°, towards the

VI.—A Partial Eclipse of the SUN, Aug. 16, 1841, invisible at Greenwich.

Begins on the Earth generally at 7^h 59^m.8, Mean Time at Greenwich,
in Longitude 160° 20' E. of Greenwich, and Latitude 33° 55' S.

Greatest Eclipse at 9^h 19^m.9. Mag. (Sun's diam. = 1) 0.404,
in Longitude 158° 3' E. of Greenwich, and Latitude 62° 7' S.

Ends on the Earth generally at 10^h 40^m.0,
in Longitude 136° 16' W. of Greenwich, and Latitude 75° 24' S.

This Eclipse will be visible in the South Pacific Ocean and part of the Southern Ocean.

ELEMENTS OF THE ECLIPSES OF THE SUN.

1841.	January 22.	February 20-21.
Greenwich Mean Time of \odot in R.A. - -	^h 4 ^m 21 ^s 53.2	^d 21 ^h 0 ^m 27 ^s 33.0
\gg 's Declination - - - - -	S. 21 4 58.5	S. 9 0 48.0
\odot 's Declination - - - - -	S. 19 36 17.5	S. 10 29 47.1
\gg 's Horary Motion in R.A. - - - -	30 30.6	28 19.2
\odot 's Horary Motion in R.A. - - - -	2 37.8	2 23.3
\gg 's Horary Motion in Declination - -	N. 9 22.3	N. 13 45.6
\odot 's Horary Motion in Declination - -	N. 0 34.8	N. 0 54.4
\gg 's Equatorial Horizontal Parallax - -	54 13.8	55 16.8
\odot 's Equatorial Horizontal Parallax - -	8.7	8.7
\gg 's True Semidiameter - - - - -	14 46.7	15 3.8
\odot 's True Semidiameter - - - - -	16 16.1	16 11.0

1841.	July 18.	August 16.
Greenwich Mean Time of \odot in R.A. - -	^h 1 49 ^m 17 ^s 9	^h 10 22 ^m 52 ^s 9
\gg 's Declination - - - - -	N. 22 17 31.5	N. 12 7 37.2
\odot 's Declination - - - - -	N. 21 1 39.7	N. 13 36 7.8
\gg 's Horary Motion in R.A. - - - -	39 41.0	35 7.4
\odot 's Horary Motion in R.A. - - - -	2 30.8	2 20.1
\gg 's Horary Motion in Declination - -	S. 10 22.7	S. 15 34.4
\odot 's Horary Motion in Declination - -	S. 0 26.5	S. 0 47.8
\gg 's Equatorial Horizontal Parallax - -	1 1 21.5	1 0 58.6
\odot 's Equatorial Horizontal Parallax - -	8.4	8.5
\gg 's True Semidiameter - - - - -	16 43.2	16 37.0
\odot 's True Semidiameter - - - - -	15 45.6	15 49.5

ELEMENTS OF THE ECLIPSES OF THE MOON.

1841.	February 5, at 14 ^h Mean Time at Greenwich,	August 1, at 22 ^h Mean T at Greenwich
	^h ^m ^s	^h ^m ^s
☾'s Right Ascension - - - - -	9 18 27.05	20 49 5
☉'s Right Ascension - - - - -	9 18 33.38	20 49 14
☾'s Declination - - - - -	N. 15 47 55.1	S. 17 43 31
☉'s Declination - - - - -	S. 15 41 57.0	N. 17 47 40
☾'s Horary Motion in R. A. - - - -	35 37.8	29 8
☉'s Horary Motion in R. A. - - - -	2 30.3	2 25
☾'s Horary Motion in Declination - -	S. 14 30.9	N. 10 33
☉'s Horary Motion in Declination - -	N. 0 46.1	S. 0 38
☾'s Equatorial Horizontal Parallax -	1 0 35.2	53 59
☉'s Equatorial Horizontal Parallax -	8.7	8
☾'s True Semidiameter - - - - -	16 30.6	14 42
☉'s True Semidiameter - - - - -	16 14.1	15 47

MEAN TIME.

JANUARY.

d	h	m		°	'
1	4	32	♂♂♂ Virginis	*	0 17 S.
1	7	51	☉ in Perigee.		
2	8	56	♀♂♂ Capricor.	*	0 51 S.
3	17	30	♀♂♂ Capricor.	*	1 8 N.
4	11	53	♂♂♂ - - -	♂	0 56 S.
5	8	28	♂ in ☿		
6	14	6	♀♂♂ Aquarii	*	0 27 S.
9	11	0	♂♂♂ 41 Capricor.	*	1 19 S.
9	15	49	♂☐☉		
11	23	11	♀♂♂ Aquarii	*	0 15 N.
14	0	0	♂ in Aphelion.		
14	1	0	♂♂♂ - - -	♂	7 27 N.
15	11	56	♂ in Aphelion.		
16	23	22	♀♂♂ Aquarii	*	0 54 N.
17	23	32	♂♂♂ - - -	♂	5 30 N.
19	7	29	♂♂♂ - - -	♂	5 4 N.
21	7	29	♂♂♂ - - -	♂	0 43 N.
22	-	-	☉ eclipsed, invis. at Greenw ^h .		
22	0	34	♀♂♂ Aquarii	*	0 6 S.
24	13	25	♀♂♂ - - -	♂	0 4 N.
26	1	22	♂♂♂ - - -	♂	3 49 S.
26	4	58	♀♂♂ - - -	♀	3 56 S.
29	0	0	♂ Stationary.		
31	3	22	♂♂♂ - - -	♂	20 51 S.

FEBRUARY.

d	h	m		°	'
3	7	12	♂♂♂		
4	4	22	♂ in ☿		
4	22	42	♂ greatest Hel. Lat. S.		
4	23	35	♂ in Sup. ♂☉		
5	-	-	☉ eclipsed, vis. at Greenwich.		
5	7	53	♀ in ☿		
7	6	52	♂♂♂ - - -	♂	1 6 N.
10	1	33	♂♂♂		
11	-	-	♂ 7 57 N.		
12	-	-	* 0 37 N.		
14	-	-	1 35 N.		
14	-	-	1 N.		
15	-	-	N.		

FEBRUARY.

d	h	m		°	'
15	19	26	♂♂♂ - - -	♂	4 57 N.
17	19	46	♀♂♂ Piscium	*	0 3 N.
19	1	12	♂♂♂ μ ¹ Sagitt.	*	1 19 N.
20	8	22	♂♂♂ λ Virginis	*	1 59 S.
21	-	-	☉ eclipsed, invis. at Greenw ^h .		
22	7	9	♂♂♂ - - -	♂	3 20 S.
22	10	10	♂♂♂ - - -	♂	3 55 S.
23	6	21	♂♂♂ - - -	♂	0 39 N.
23	22	8	♂ in ☿		
24	4	39	♂♂♂		
24	23	24	♀♂♂ - - -	♀	3 22 S.
28	11	34	♂ in Perihelion.		

MARCH.

d	h	m		°	'
3	17	10	♂ greatest elong.	18	8 E.
3	21	36	♀ greatest elong.	46	19 E.
4	3	24	♂♂♂ η Virginis	*	0 28 S.
7	0	0	♂ in Aphelion.		
8	21	47	♂☐☉		
10	2	25	♂♂♂ ρ Ophiuchi	*	1 22 N.
10	9	36	♂ Stationary.		
10	13	29	♂♂♂		
10	16	0	♀ in Perihelion.		
10	19	38	♂ greatest Hel. Lat. N.		
10	21	19	♂♂♂ - - -	♂	7 59 N.
11	5	0	♂ Stationary.		
14	4	34	♂♂♂ - - -	♂	5 7 N.
15	6	33	♂♂♂ - - -	♂	4 45 N.
19	2	45	♂♂♂ intens. of light 0.627		
20	6	28	☉ ent. ☿. Spring commences.		
20	8	43	♂ in Inf. ♂☉		
21	12	11	♀♂♂ ε Arietis	*	0 8 N.
21	20	40	♂♂♂ - - -	♂	4 3 S.
22	7	42	♂♂♂ - - -	♂	0 29 S.
23	1	29	♂☐☉		
26	3	7	♀♂♂ - - -	♀	0 42 S.
26	11	33	♀♂♂ ζ Arietis	*	1 39 S.
27	9	15	♂♂♂ - - -	♂	7 55 S.
28	18	56	♂♂♂ λ Virginis	*	1 52 S.
30	3	16	♂♂♂ - - -	♂	9 55 N.

MEAN TIME.

APRIL.

d	h	m		o	i
1	19	33	♂ Stationary.		
1	19	51	♀ greatest Hel. Lat. N.		
3	7	42	♂ in ☿		
3	20	4	♂ δ κ Virginis * 0 49 N.		
5	12	36	♂ Stationary.		
6	15	31	♀ δ b Pleiadum * 1 10 S.		
6	18	56	♀ δ e Pleiadum * 0 51 S.		
6	22	17	♂ δ ☾ - - - ♂ 7 29 N.		
7	1	40	♀ δ c Pleiadum * 1 0 S.		
7	7	40	♀ δ d Pleiadum * 1 27 S.		
7	20	27	♀ δ η Tauri * 1 23 S.		
8	15	56	♀ δ f Pleiadum * 1 34 S.		
8	23	5	♀ at greatest brilliancy.		
9	9	0	♂ δ ♄ - - - ♂ 3 54 S.		
10	14	17	♂ δ ☾ - - - ♀ 4 53 N.		
11	12	38	♂ Stationary.		
11	15	53	♂ δ ☾ - - - ♀ 4 31 N.		
13	11	12	♂ in Aphelion.		
14	12	38	♂ δ ☾ - - - ♀ 6 45 N.		
17	3	19	♂ greatest elong. 27 21 W.		
17	13	56	♂ 8 ☉		
18	8	22	♂ δ ☾ - - - ♀ 4 15 S.		
19	4	8	♂ δ ☾ - - - ♀ 6 59 S.		
20	1	25	♂ δ p Piscium * 1 34 N.		
21	21	32	♂ δ q Piscium * 1 48 N.		
21	22	56	♂ δ r Piscium * 1 11 S.		
23	6	31	♀ δ ☾ - - - ♀ 0 59 N.		
23	8	25	♀ Stationary.		
23	22	36	♂ δ s Piscium * 1 12 S.		
25	0	0	♂ δ ν Virginis * 0 7 N.		
27	0	0	♂ δ ξ Virginis * 1 42 N.		

MAY.

d	h	m		o	i
2	0	0	♂ δ ρ Ophiuchi * 1 22 N.		
3	12	17	♂ δ ☾ - - - ♂ 6 16 N.		
3	21	56	♂ greatest Hel. Lat. S.		
7	19	21	♂ δ ☾ - - - ♀ 4 47 N.		
8	22	38	♂ δ ☾ - - - ♀ 4 21 N.		
9	0	0	♂ Stationary.		

MAY.

d	h	m		o	i
13	0	0	♂ greatest Hel. Lat. S.		
14	13	12	♀ in Inf. δ ☉		
15	19	53	♂ δ ☾ - - - ♀ 4 34		
19	4	18	♂ δ ♀ - - - ♀ 2 47		
19	22	21	♀ δ ☾ - - - ♀ 3 14		
20	1	55	♂ δ ☾ - - - ♀ 5 37		
21	9	36	♂ δ ξ Virginis * 1 5		
22	21	22	♂ in ☿		
22	23	16	♂ δ m Ceti * 0 53		
23	19	12	♂ δ ν Virginis * 0 36		
25	21	6	♂ in Sup. δ ☉		
26	6	0	♂ δ ☾ - - - ♀ 3 57		
27	10	52	♂ in Perihelion.		
27	21	23	♀ in ☿		
29	6	53	♂ in ☿		
29	8	58	♂ Stationary.		
30	10	9	♂ δ ☾ - - - ♀ 5 5		

JUNE.

d	h	m		o	i
3	16	56	♀ Stationary.		
3	20	30	♂ δ ☾ - - - ♀ 4 50		
4	6	40	♂ δ μ Sagitt. * 1 17		
5	2	42	♂ δ ☾ - - - ♀ 4 19		
5	10	16	♂ 8 ☉		
6	18	53	♂ greatest Hel. Lat. N.		
10	0	29	♂ ☐ ☉		
10	20	33	♂ δ ε Geminor. * 0 1		
12	5	44	♂ δ ☾ - - - ♀ 4 53		
15	3	44	♂ ☐ ☉		
15	7	50	♂ ☐ ☉		
16	6	29	♀ δ ☾ - - - ♀ 8 23		
19	8	17	♂ δ α Virginis * 1 29		
19	11	49	♂ δ κ Geminor. * 1 28		
20	4	15	♀ at greatest brilliancy.		
20	11	11	♂ δ ☾ - - - ♀ 0 3		

Summer-com
* 0 45

MEAN TIME.

JUNE.

d	h	m		°	'
29	4	0	♄ Stationary.		
29	16	41	♀ greatest elong.	25	49 E.
30	6	58	♀ in ☿		
30	20	28	♃ ☿ ☾ - - -	♃	4 59 N.

JULY.

d	h	m		°	'
1	0	47	☉ in Apogee.		
1	2	37	♀ in Aphelion.		
2	5	9	♂ ☿ ☾ - - -	♂	4 25 N.
9	0	0	♄ Stationary.		
9	12	57	♄ ☿ ☾ - - -	♄	5 4 S.
10	10	30	♀ in Aphelion.		
10	22	42	♀ ☿ γ Tauri	*	1 58 S.
11	17	52	☿ ☿ α Piscium	*	1 57 S.
11	19	43	♀ ☿ δ ¹ Tauri	*	0 11 S.
12	3	52	♀ ☿ δ ² Tauri	*	0 20 S.
12	13	4	♀ ☿ δ ³ Tauri	*	0 6 N.
12	20	26	♀ Stationary.		
13	9	46	♀ ☿ ε Tauri	*	1 13 N.
14	22	59	♀ ☿ ☾ - - -	♀	8 27 S.
15	9	23	☿ ☐ ☉		
15	11	25	♀ ☿ α Tauri	*	1 46 S.
18	-	-	☉ eclips. invis. at Greenwich.		
18	23	1	♀ ☿ ☾ - - -	♀	4 22 S.
21	11	13	♂ ☿ 4 Sagitt.	*	1 21 S.
23	15	40	♀ ☿ m Tauri	*	0 46 S.
23	17	8	☿ ☐ ☉		
23	18	28	♀ greatest Hel. Lat. S.		
24	3	22	♀ greatest elong.	45	38 W.
25	4	16	♂ ☿ ☾ - - -	♂	4 11 N.
26	0	13	♂ ☿ λ Virginis	*	1 58 N.
27	10	38	♀ in Inf. ☿ ☉		
27	22	50	♃ ☿ ☾ - - -	♃	5 3 N.
28	13	40	♀ ☿ o Tauri	*	1 58 N.
29	7	50	♂ ☿ ☾ - - -	♂	4 30 N.
30	20	26	♂ ☐ ☉		
30	21	10	♀ greatest Hel. Lat. S.		
23	15		♀ ☿ ζ Tauri	*	0 57 N.

AUGUST.

d	h	m		°	'
2	-	-	☿ eclipsed, invis. at Greenw ^h .		
3	21	25	♀ ☿ χ ¹ Orionis	*	0 14 S.
5	17	50	♄ ☿ ☾ - - -	♄	5 5 S.
6	1	26	♀ ☿ χ ² Orionis	*	0 30 S.
6	8	13	♀ Stationary.		
6	14	26	♃ Stationary.		
8	11	55	♀ ☿ η Geminor.	*	1 46 N.
9	0	0	♂ in Aphelion.		
10	2	19	♂ ☿ α ² Libræ	*	1 58 N.
10	7	4	♀ ☿ μ Geminor.	*	1 44 N.
11	15	53	♀ ☿ ν Geminor.	*	0 35 S.
13	4	59	♀ ☿ ☾ - - -	♀	5 17 S.
15	1	16	♀ ☿ ☾ - - -	♀	1 31 S.
15	2	54	♀ greatest elong.	18	37 W.
16	-	-	☉ eclips. invis. at Greenwich.		
18	20	38	♀ in ☿		
19	7	12	♀ ☿ ζ Geminor.	*	0 4 S.
21	0	0	☿ greatest Hel. Lat. S.		
22	16	39	♂ ☿ ☾ - - -	♂	3 39 N.
22	16	56	♀ ☿ δ Geminor.	*	1 34 N.
23	10	7	♀ in Perihelion.		
23	13	44	☿ ☿ ν Ceti	*	0 14 N.
24	6	2	♃ ☿ ☾ - - -	♃	4 55 N.
25	12	40	♂ ☿ ☾ - - -	♂	4 28 N.
26	0	0	☿ Stationary.		
30	21	52	♂ ☿ κ Libræ	*	1 43 N.
30	22	17	♂ Stationary.		

SEPTEMBER.

d	h	m		°	'
1	21	46	♄ ☿ ☾ - - -	♄	4 58 S.
2	18	10	♀ greatest Hel. Lat. N.		
3	10	56	♃ ☐ ☉		
4	4	9	♂ ☿ λ Libræ	*	1 50 N.
4	5	34	♂ ☉, intens. of light 0.469		
5	0	0	☿ Stationary.		
6	16	40	♂ ☿ δ Scorp ⁱⁱ	*	0 16 S.
9	0	40	♀ in Sup. ☿ ☉		
9	2	10	♂ ☿ ω ¹ Scorp ⁱⁱ	*	1 59 N.
9	7	4	♂ ☿ ω ² Scorp ⁱⁱ	*	1 49 N.
9	14	45	♀ ☿ δ Canc ^{ri}	*	0 38 N.
11	19	50	♀ ☿ ☾ - - -	♀	0 21 S.

MEAN TIME.

SEPTEMBER.

d	h	m		o	'
14	22	17	♄ 8 ☉		
15	7	32	♀ 6 ☾ - - - ♀ 5 43 N.		
15	15	55	♂ 6 <i>g</i> Ophiuchi * 0 1 S.		
18	0	0	☿ 6 <i>v</i> Ceti * 1 42 N.		
18	0	48	♀ in ♌		
19	10	50	♄ ☐ ☉		
19	12	56	♂ 6 <i>γ</i> Aquarii * 0 22 S.		
20	11	19	♂ 6 ☾ - - - ♂ 2 40 N.		
20	18	30	♄ 6 ☾ - - - ♄ 4 33 N.		
21	20	48	♄ 6 ☾ - - - ♄ 4 12 N.		
22	17	34	☉ enters ♌. Autumn comm ^s .		
26	6	13	♀ in ♊		
27	5	59	♂ 6 ♄ - - - ♂ 2 4 S.		
27	12	13	♀ 6 α Leonis * 0 5 S.		
29	1	8	♂ 6 ζ Aquarii * 1 47 N.		
29	2	31	♄ 6 ☾ - - - ♄ 4 53 S.		

OCTOBER.

d	h	m		o	'
2	6	45	♂ 6 A Ophiuchi * 1 45 S.		
2	19	35	♀ 6 ρ Leonis * 0 43 S.		
4	6	52	♀ 6 ♄ - - - ♀ 7 58 S.		
4	10	35	♂ 6 θ Ophiuchi * 0 6 S.		
6	9	44	♀ in Aphelion.		
7	11	22	♂ 6 ε ^s Ophiuchi * 1 4 N.		
9	9	0	♄ 6 4 Sagitt. * 1 9 S.		
9	21	2	♀ 6 χ Leonis * 0 15 N.		
11	17	47	♀ 6 ☾ - - - ♀ 4 49 N.		
12	23	22	☿ 8 ☉, intens. of light 0.773		
13	9	56	♀ 6 σ Leonis * 0 29 N.		
16	0	11	♀ 6 ☾ - - - ♀ 2 50 N.		
16	9	49	♂ 6 4 Sagitt. * 1 21 N.		
17	2	19	♂ 6 ♄ - - - ♂ 2 28 S.		
18	11	7	♄ 6 ☾ - - - ♄ 4 0 N.		
19	8	4	♄ 6 ☾ - - - ♄ 3 48 N.		
19	11	7	♂ 6 ☾ - - - ♂ 1 13 N.		
19	21	57	♂ 6 β Virginis * 0 49 S.		
21	10	0	♀ in Perihelion.		
21	15	21	☿ 8 ☉, intens. of light 0.705		
24	16	0	♂ Stationary.		
25	1	58	♂ 6 λ Sagitt. * 0 27 S.		
25	9	1	♀ greatest elong. 23.50 E.		

OCTOBER.

d	h	m		o	'
26	9	5	♄ 6 ☾ - - - ♄ 4 5		
26	9	42	♀ 6 <i>γ</i> Virginis * 0 1		
26	16	48	♄ 6 ρ Ophiuchi * 1 4		
26	19	4	♄ 6 ☉		
26	20	26	♀ greatest Hel. Lat. S.		
30	14	48	♀ 6 δ Scorpis * 0 5		

NOVEMBER.

d	h	m		o	'
1	21	0	♂ greatest Hel. Lat. S.		
2	3	46	♂ 6 <i>v</i> ¹ Sagitt. * 1 4		
2	9	52	♂ 6 σ Sagitt. * 1 4		
2	10	36	♂ 6 <i>v</i> ² Sagitt. * 1 4		
5	15	19	♀ Stationary.		
7	15	24	♄ 6 ε ^s Ophiuchi * 0 5		
10	17	53	♀ 6 ☾ - - - ♀ 7 1		
12	12	52	♀ greatest Hel. Lat. N.		
13	8	3	♀ 6 ☾ - - - ♀ 4		
14	19	54	♀ in ♌		
15	2	20	♂ 6 <i>h</i> ² Sagitt. * 1 4		
15	6	3	♄ 6 ☾ - - - ♄ 3 2		
15	21	18	♄ 6 ☾ - - - ♄ 3 2		
16	2	0	♀ in Inf. 6 ☉		
17	6	13	♄ 6 μ ¹ Sagitt. * 1 3		
17	15	14	♂ 6 ☾ - - - ♂ 0 3		
19	9	22	♀ in Perihelion.		
21	16	40	♂ 6 σ Aquarii * 1 3		
22	17	17	♄ 6 ☾ - - - ♄ 5		
23	18	47	♂ in ♊		
25	6	28	♀ Stationary.		
25	7	18	♂ in Perihelion.		
26	3	7	♄ ☐ ☉		
29	17	28	♀ greatest Hel. Lat. N.		
29	18	19	♄ Stationary.		

DECEMBER.

d	h	m	
1	21	25	♀
3	14	11	
4	20	45	
6	3	40	

MEAN TIME.

DECEMBER.				DECEMBER.			
d	h	m		d	h	m	
8	0	0	♀ Stationary.	18	8	47	♂ δ Capricor. * 0 8 S.
10	18	17	♀ δ ☾ - - - ♀ 5 43 N.	19	11	32	♀ δ ♏ Libræ * 0 39 N.
10	20	35	♀ δ ☾ - - - ♀ 6 8 N.	20	2	8	♂ δ ☾ - - - ♀ 5 21 S.
11	9	36	☐ Stationary.	21	10	56	☉ enters ♏. Winter comm ^d .
11	10	39	♂ δ β ¹ Scorpii * 0 28 S.	22	14	50	♂ δ ☉
12	3	12	♂ ☐ ☉	23	5	30	♀ in ☿
12	10	39	♀ δ ν Scorpii * 0 15 N.	24	4	28	♂ δ γ Capricor. * 1 27 S.
12	13	46	♂ δ η Capricor. * 1 45 S.	26	11	38	♂ δ δ Capricor. * 1 31 S.
13	1	35	♂ δ ☾ - - - ♀ 2 51 N.	26	19	28	♂ δ ☉
13	10	58	♂ δ ☾ - - - ♀ 2 59 N.	28	13	55	♂ δ μ Capricor. * 0 28 N.
16	22	9	♂ δ ☾ - - - ♀ 2 43 S.	30	15	26	☉ in Perigee.

SATURN'S RING.

ELEMENTS FOR DETERMINING THE GEOCENTRIC POSITION,
MAGNITUDE, AND APPEARANCE OF SATURN'S RING.

Mean Noon.	p	a	b	l	l'
Jan. 1	+ 6 ⁰ 15 ['] 1	34 ["] 04	+ 15 ["] 34	+ 26 ⁰ 46 ['] 5	+ 26 ⁰ 46 ['] 9
Feb. 10	6 36 6	35 19	15 63	26 22 4	26 44 5
Mar. 22	6 48 0	37 35	16 40	26 2 3	26 41 2
May 1	6 48 1	39 81	17 46	26 0 8	26 37 2
June 10	6 38 2	41 32	18 31	26 18 6	26 32 6
July 20	6 24 5	40 85	18 34	26 40 3	26 27 2
Aug. 29	6 17 8	38 76	17 53	26 53 6	26 21 0
Oct. 8	6 24 3	36 31	16 43	26 53 7	26 14 1
Nov. 17	6 41 2	34 54	15 48	26 37 1	26 6 4
Dec. 27	7 0 7	33 92	14 89	26 1 7	25 58 0
— 31	+ 7 2 5	33 93	+ 14 85	+ 25 57 2	+ 25 57 1

p denotes the inclination of the Northern semi-minor axis of the Ring to the circle of Declination; + East, - West.

the *major* axis of the Ring.

^h *minor* axis; + North surface visible,

— South surface visible.

of the Earth above the plane of the Ring, as seen from North, — South.

the Sun above the plane of the Ring, as seen from Saturn;
South.

TABLE,
SHOWING THE MEAN TIME OF THE GREATEST LIBRATION OF THE MOON
APPARENT DISC.

	d	h	m	
Jan.	12	15	7	N. W.
	28	12	57	N. E.
Feb.	9	22	21	N. W.
	24	12	56	N. E.
Mar.	9	23	14	N. W.
	22	18	2	N. E.
Apr.	6	10	21	N. W.
	18	21	56	N. E.
May	2	22	45	N. W.
	16	17	8	N. E.
	29	11	32	N. W.
June	13	19	27	N. E.
	26	2	16	N. W.
July	12	0	11	N. E.
	24	4	18	N. W.
Aug.	9	2	39	N. E.
	21	9	8	N. W.
Sept.	5	17	54	N. E.
	18	12	0	N. W.
Oct.	2	5	24	N. E.
	16	7	42	N. W.
	28	17	55	N. E.
Nov.	12	10	53	N. W.
	25	6	30	N. E.
Dec.	8	14	13	N. W.
	23	8	26	N. E.

The Moon's Libration is here supposed to take place in the plane of her Orbit:—at the time of the greatest Libration of her apparent Disc is to be understood the instant at which, to an observer at the centre of Earth, the variation of the Disc from its normal state has attained its maximum.

The right-hand column indicates the quadrant of the Moon's Disc in which the libration takes place, and in which the greatest change of the Moon's surface will be visible.

TABLE,
SHOWING THE ILLUMINATED PORTION OF THE DISCS OF VENUS AND MARS.

1841.	VENUS.	MARS.
Jan. 15	0.717	0.903
Feb. 14	0.603	0.917
Mar. 15	0.451	0.958
Apr. 15	0.208	1.000
May 15	0.000	0.964
June 15	0.223	0.900
July 15	0.447	0.868
Aug. 15	0.608	0.860
Sept. 15	0.730	0.867
Oct. 15	0.823	0.881
Nov. 15	0.897	0.901
Dec. 15	0.947	0.921

The numbers given in this Table represent the versed sines of the illuminated portion of the Discs, the apparent Diameters of the Discs being considered as unity.

OPPOSITION OF MARS, 1841. 545

EPHEMERIS OF THE STARS PROPER TO BE OBSERVED WITH
MARS, NEAR THE OPPOSITION OF THE PLANET,
APRIL 17, 1841.

Date.	Star.	Magnitude.	Apparent Right Ascension.	Apparent Declination.
1841.			^h ^m ^s	[°] ['] ["]
Mar. 18	λ Virginis -	4	14 10 33.58	S. 12 38 23.5
	* - - - (a)	8	14 22 46.83	11 9 53.0
19	λ Virginis -	4	14 10 33.60	12 38 23.6
	* - - - (a)	8	14 22 46.85	11 9 53.1
20	λ Virginis -	4	14 10 33.62	12 38 23.7
	* - - - (a)	8	14 22 46.87	11 9 53.2
21	λ Virginis -	4	14 10 33.64	12 38 23.8
	2 Libræ - -	6	14 14 54.40	10 59 17.8
22	λ Virginis -	4	14 10 33.66	12 38 23.9
	2 Libræ - -	6	14 14 54.42	10 59 17.9
23	κ Virginis -	4	14 4 27.94	9 32 6.8
	2 Libræ - -	6	14 14 54.44	10 59 17.9
24	κ Virginis -	4	14 4 27.96	9 32 6.8
	2 Libræ - -	6	14 14 54.46	10 59 18.0
25	κ Virginis -	4	14 4 27.97	9 32 6.9
	2 Libræ - -	6	14 14 54.48	10 59 18.1
26	κ Virginis -	4	14 4 27.98	9 32 7.0
	2 Libræ - -	6	14 14 54.50	10 59 18.2
27	κ Virginis -	4	14 4 28.00	9 32 7.1
	* - - - (b)	7	14 16 11.33	10 56 56.6
28	κ Virginis -	4	14 4 28.02	9 32 7.1
	* - - - (c)	8	14 12 46.94	10 40 16.1
29	κ Virginis -	4	14 4 28.03	9 32 7.2
	* - - - (c)	8	14 12 46.96	10 40 16.1
30	κ Virginis -	4	14 4 28.05	9 32 7.2
	* - - - (c)	8	14 12 46.98	10 40 16.2
31	94 Virginis -	6	13 57 55.47	8 8 1.6
	* - - - (c)	8	14 12 46.99	10 40 16.3
1	94 Virginis -	6	13 57 55.49	8 8 1.6
	* - - - (d)	9	14 7 28.47	S. 10 27 57.7

EPHEMERIS OF THE STARS PROPER TO BE OBSERVED WITH
MARS, NEAR THE OPPOSITION OF THE PLANET,
APRIL 17, 1841.

Date.	Star.	Magnitude.	Apparent Right Ascension.	Apparent Declination.
1841. April 2	94 Virginis -	6	^h ^m ^s 13 57 55.50	S. [°] ['] ["] 8 8 1.7
	* - - - (d)	9	14 7 28.48	10 27 57.8
3	* - - - (e)	8.9	13 59 26.10	10 23 55.1
	λ Virginis -	4	14 10 33.86	12 38 24.9
4	* - - - (e)	8.9	13 59 26.12	10 23 55.2
	λ Virginis -	4	14 10 33.88	12 38 24.9
5	* - - - (f)	8	13 53 53.81	10 18 59.7
	ι Virginis -	4	14 7 43.87	5 14 32.4
6	ι Virginis -	4	14 7 43.88	5 14 32.4
7	* - - - (g)	7.8	13 55 6.49	9 58 3.9
	κ Virginis -	4	14 4 28.17	9 32 7.7
8	* - - - (g)	7.8	13 55 6.50	9 58 4.0
	κ Virginis -	4	14 4 28.19	9 32 7.7
9	* - - - (g)	7.8	13 55 6.51	9 58 4.0
	κ Virginis -	4	14 4 28.20	9 32 7.7
10	* - - - (h)	8	14 2 54.06	9 43 51.1
	κ Virginis -	4	14 4 28.21	9 32 7.8
11	96 Virginis -	6.7	14 0 35.25	9 34 58.0
	κ Virginis -	4	14 4 28.22	9 32 7.8
12	96 Virginis -	6.7	14 0 35.26	9 34 58.0
	κ Virginis -	4	14 4 28.23	9 32 7.8
13	96 Virginis -	6.7	14 0 35.28	9 34 58.0
	κ Virginis -	4	14 4 28.24	9 32 7.8
14	κ Virginis -	4	14 4 28.25	9 32 7.9
15	* - - - (i)	8	13 48 16.26	9 15 14.1
	κ Virginis -	4	14 4 28.26	9 32 7.9
16	* - - - (i)	8	13 48 16.27	9 15 14.2
	κ Virginis -	4	14 4 28.27	S. 9 32 8.0

OPPOSITION OF MARS, 1841. 547

EPHEMERIS OF THE STARS PROPER TO BE OBSERVED WITH
MARS, NEAR THE OPPOSITION OF THE PLANET,
APRIL 17, 1841.

Date.	Star.	Magnitude.	Apparent Right Ascension.	Apparent Declination.
1841.			h m s	° ' "
April 17	82 Virginis -	5.6	13 33 19.53	S. 7 54 12.0
	* - - - (k)	7	13 47 30.84	8 58 41.8
18	82 Virginis -	5.6	13 33 19.54	7 54 12.0
	* - - - (k)	7	13 47 30.85	8 58 41.8
19	82 Virginis -	5.6	13 33 19.55	7 54 12.1
	* - - - (l)	7	13 38 51.92	8 54 55.6
20	82 Virginis -	5.6	13 33 19.55	7 54 12.1
	* - - - (m)	7.8	13 47 26.30	8 46 56.6
21	82 Virginis -	5.6	13 33 19.56	7 54 12.1
	* - - - (m)	7.8	13 47 26.31	8 46 56.7
22	76 Virginis -	6	13 24 38.49	9 20 52.4
	* - - - (n)	9	13 36 18.43	8 32 21.3
23	76 Virginis -	6	13 24 38.49	9 20 52.4
	* - - - (n)	9	13 36 18.44	8 32 21.3
24	76 Virginis -	6	13 24 38.49	9 20 52.4
	* - - - (o)	9	13 34 51.84	8 23 47.3
25	* - - - (p)	8	13 26 23.51	8 17 45.9
26	* - - - (p)	8	13 26 23.51	8 17 45.9
27	76 Virginis -	6	13 24 38.50	9 20 52.5
28	82 Virginis -	5.6	13 33 19.59	7 54 12.2
29	82 Virginis -	5.6	13 33 19.59	7 54 12.2
30	82 Virginis -	5.6	13 33 19.60	7 54 12.2
May 1	* - - - (q)	7.8	13 26 1.32	7 48 20.4
	82 Virginis -	5.6	13 33 19.60	7 54 12.1
	- (q)	7.8	13 26 1.32	7 48 20.5
	-	5.6	13 33 19.61	7 54 12.1
		8	13 24 56.83	7 37 54.2
		5.6	13 33 19.61	S. 7 54 12.1

EPHEMERIS OF THE STARS PROPER TO BE OBSERVED WITH
MARS, NEAR THE OPPOSITION OF THE PLANET,

APRIL 17, 1841.

Date.	Star.	Magnitude.	Apparent Right Ascension.	Apparent Declination.
1841.				
May 4	* - - - (r) 82 Virginis -	8 5.6	^h ^m ^s 13 24 56.83 13 33 19.61	S. [°] ['] ["] 7 37 54.2 7 54 12.1
5	82 Virginis -	5.6	13 33 19.62	7 54 12.1
6	82 Virginis -	5.6	13 33 19.62	7 54 12.1
7	82 Virginis -	5.6	13 33 19.62	7 54 12.1
8	* - - - (s) 82 Virginis -	8 5.6	13 7 15.84 13 33 19.62	7 13 10.9 7 54 12.1
9	* - - - (s) 82 Virginis -	8 5.6	13 7 15.84 13 33 19.62	7 13 10.9 7 54 12.1
10	* - - - (s) 82 Virginis -	8 5.6	13 7 15.84 13 33 19.62	7 13 10.9 7 54 12.1
11	* - - - (s) 82 Virginis -	8 5.6	13 7 15.84 13 33 19.62	7 13 10.8 7 54 12.1
12	* - - - (s) 82 Virginis -	8 5.6	13 7 15.84 13 33 19.62	7 13 10.8 7 54 12.1
13	* - - - (t) 82 Virginis -	8 5.6	13 22 38.24 13 33 19.62	7 2 43.6 7 54 12.0
14	* - - - (t) 82 Virginis -	8 5.6	13 22 38.24 13 33 19.62	7 2 43.6 7 54 12.0
15	θ Virginis -	4.5	13 1 46.36	4 41 35.0
16	θ Virginis -	4.5	13 1 46.36	4 41 35.0
17	θ Virginis -	4.5	13 1 46.36	4 41 35.0
18	θ Virginis -	4.5	13 1 46.35	4 41 34.9
19	θ Virginis -	4.5	13 1 46.35	4 41 34.9
20	θ Virginis -	4.5	13 1 46.35	4 41 34.9
21	θ Virginis -	4.5	13 1 46.34	S. 4 41 34.9

EPHEMERIS OF THE STARS PROPER TO BE OBSERVED WITH
MARS, NEAR THE OPPOSITION OF THE PLANET,
APRIL 17, 1841.

Date.	Star.	Magnitude.	Apparent Right Ascension.	Apparent Declination.
1841. May 22	θ Virginis -	4.5	^h 13 ^m 1 ^s 46.34	S. [°] 4 ['] 41 ["] 34.8
23	θ Virginis -	4.5	13 1 46.33	4 41 34.7
24	θ Virginis -	4.5	13 1 46.33	4 41 34.6
25	θ Virginis -	4.5	13 1 46.32	4 41 34.6
26	θ Virginis -	4.5	13 1 46.32	4 41 34.5
27	θ Virginis -	4.5	13 1 46.31	4 41 34.5
28	θ Virginis -	4.5	13 1 46.31	4 41 34.5
	* - - - (s)	8	13 7 15.78	7 13 10.4
29	θ Virginis -	4.5	13 1 46.30	4 41 34.4
	* - - - (s)	8	13 7 15.77	7 13 10.4
30	θ Virginis -	4.5	13 1 46.30	4 41 34.4
	* - - - (s)	8	13 7 15.77	7 13 10.3
31	θ Virginis -	4.5	13 1 46.29	4 41 34.3
	* - - - (s)	8	13 7 15.76	7 13 10.2
June 1	θ Virginis -	4.5	13 1 46.28	4 41 34.3
	* - - - (s)	8	13 7 15.76	S. 7 13 10.2

MEAN TIME OF HIGH WATER AT LONDON BRIDGE,

Reckoning from Noon of each Day.

Day of the Month.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.	
	h	m	h	m	h	m	h	m	h	m	h	m
1	7	25	19	49	9	21	50	7	26	20	5	
2	8	18	20	54	10	37	23	22	8	51	21	41
3	9	35	22	19	—	12	3	10	30	23	13	
4	11	1	23	39	0	37	13	5	11	53	—	
5	—	12	11		1	34	14	3	0	26	12	57
6	0	45	13	16	2	26	14	50	1	25	13	48
7	1	43	14	10	3	13	15	32	2	11	14	34
8	2	37	15	2	3	51	16	12	2	51	15	7
9	3	27	15	49	4	30	16	46	3	26	15	45
10	4	12	16	35	5	2	17	20	4	1	16	18
11	4	58	17	21	5	36	17	53	4	37	16	51
12	5	39	17	58	6	13	18	35	5	8	17	25
13	6	17	18	38	6	57	19	22	5	43	18	4
14	6	55	19	12	7	50	20	26	6	27	18	49
15	7	36	20	4	9	52	21	49	7	15	19	43
16	8	37	21	17	10	34	23	15	8	26	21	10
17	9	58	22	40	11	51	—		9	51	22	34
18	11	22	23	56	0	25	12	52	11	15	23	49
19	—	12	27		1	14	13	36	—	12	21	
20	0	52	13	16	1	55	14	13	0	48	13	5
21	1	38	13	55	2	30	14	46	1	25	13	42
22	2	16	14	35	3	0	15	13	2	1	14	12
23	2	51	15	8	3	29	15	44	2	30	14	44
24	3	25	15	41	4	0	16	15	3	0	15	15
25	3	54	16	10	4	32	16	47	3	35	15	50
26	4	26	16	43	5	3	17	22	4	10	16	31
27	5	0	17	15	5	41	18	4	4	49	17	10
28	5	34	17	51	6	31	18	57	5	31	17	57
29	6	7	18	27	—	—	—	—	6	24	18	50
30	6	49	19	15	—	—	—	—	7	24	20	6
31	7	42	20	18	—	—	—	—	8	52	21	39

If the time of High Water be required, according to the civil time, during:

1. *For the Morning Tide*:—With the day of the month, take the time opposite thereto from the 2nd column of the 12 hours.

2. *For the Afternoon Tide*:—With the given date, take the time from the 1st column of the month.

MEAN TIME OF HIGH WATER AT LONDON BRIDGE,

Reckoning from Noon of each Day.

Day of the Month.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	h	m	h	m	h	m	h	m	h	m	h	m
1	0	33	12	57	1	46	14	49	2	30	14	44
2	1	21	13	43	2	28	14	43	3	53	16	16
3	2	4	14	25	2	59	15	14	4	37	17	0
4	2	42	15	0	3	32	15	45	5	24	17	52
5	3	16	15	32	3	58	16	12	6	19	18	51
6	3	50	16	5	4	28	16	44	7	28	20	5
7	4	20	16	39	4	59	17	16	8	45	21	23
8	4	55	17	13	5	32	17	50	10	22	22	36
9	5	32	17	48	6	8	18	30	11	7	23	39
10	6	6	18	26	6	53	19	21	—	12	8	—
11	6	44	19	4	7	48	20	29	0	32	12	56
12	7	23	19	47	9	17	22	5	1	16	13	37
13	8	19	20	57	10	51	23	33	1	59	14	19
14	9	37	22	21	—	12	7	—	2	38	14	56
15	11	1	23	39	0	40	13	10	3	14	15	33
16	—	12	13	—	1	38	14	3	3	51	16	11
17	0	48	13	18	2	27	14	51	4	27	16	47
18	1	48	14	15	3	12	15	33	5	4	17	23
19	2	40	15	3	3	51	16	10	5	47	18	12
20	3	27	15	49	4	27	16	47	6	38	19	0
21	4	13	16	34	5	4	17	21	7	29	19	58
22	4	57	17	16	5	40	18	1	8	27	20	58
23	5	38	17	56	6	22	18	44	9	26	21	59
24	6	17	18	35	7	8	19	38	10	31	23	1
25	6	54	19	14	8	15	20	58	11	27	23	51
26	7	42	20	12	9	43	22	29	—	12	16	—
27	8	49	21	30	11	11	23	45	0	40	13	5
28	10	15	22	59	—	12	17	—	0	46	13	5
29	11	37	—	—	0	41	13	4	1	21	13	39
30	0	11	12	39	1	26	13	46	2	15	14	37
31	1	3	13	24	2	3	14	18	3	0	15	21

*Example:—*Required the Mean Time of High Water, at London Bridge, for the Morning and Afternoon of Jan. 24, 1841.

Opposite the day *preceding*, viz. 23, and in the 2nd column, under JANUARY, is 12^h, being diminished by 12^h, gives 3^h 8^m for the Time of High Water

on the given date, and in the 1st column, under JANUARY, is 3^h 25^m, High Water in the Afternoon.

TIME OF HIGH WATER, ON THE FULL AND CHANGE OF THE MOON,
AT THE UNDERMENTIONED PORTS AND PLACES.

PLACE.	SITUATION.	Time of High Water.	PLACE.	SITUATION.	Time of High Water.
		h m			h m
Aberdeen Bar -	Scotland -	1 11	Carlingford Bar -	Ireland -	10 40
Aberdovy -	Wales -	7 30	Carnarvon Bar -	Wales -	9 20
Aberystwith -	Wales -	7 30	Chatham -	England -	0 54
Achill Head -	Ireland -	6 0	Cherbourg -	France -	7 35
Agnes (St.) -	Scilly Isles -	4 32	Chester Bar -	England -	10 30
Air Point -	Isle of Man -	11 7	Chichester Harbour	England -	11 30
Aldborough -	England -	10 45	Christchurch Harbour	England -	8 50
Alderney Pier	English Channel	6 45	Clear Cape -	Ireland -	4 0
Alne River -	England -	2 45	Cork Harbour -	Ireland -	4 30
Amlwck Port	Anglesea -	10 30	Cornwall Cape -	England -	4 30
Antwerp -	Netherlands -	4 25	Cowes -	Isle of Wight	10 45
Arran Isle -	Scotland -	11 15	Cromartie -	Scotland -	11 45
Arundel Bar -	England -	11 15	Cuckold's Point -	River Thames	2 1
Balta -	Shetland -	9 45	Cuxhaven -	Germany -	1 0
Baltimore -	Ireland -	3 45	Dartmouth Harbour	England -	6 5
Banff -	Scotland -	0 41	Deal -	England -	11 25
Bantry Bay -	Ireland -	3 46	Dingle Bay -	Ireland -	3 30
Barsey Island	Wales -	8 0	Donaghadee Pier	Ireland -	9 15
Barmouth -	Wales -	7 55	Donegal Bar -	Ireland -	5 5
Barnstaple Bar	England -	5 30	Douglas's Harbour	Isle of Man	11 12
Beachy (on Shore)	England -	10 15	Dover Pier -	England -	11 15
Beachy (Offing)	England -	11 0	Downing's Bay } Sheephaven }	Ireland -	5 20
Beaumaris -	Wales -	10 26	Downs Stream -	England -	2 55
Belfast -	Ireland -	10 5	Dublin Bar -	Ireland -	10 30
Berwick -	England -	2 18	Dudgeon Lights -	North Sea -	7 30
Blakeney Harbour	England -	6 50	Dunbar -	Scotland -	2 20
Blythe -	England -	2 45	Duncansby Head	Scotland -	8 15
Bolt Head -	England -	5 45	Dundalk Bar -	Ireland -	11 0
Boston -	England -	7 15	Dundee -	Scotland -	2 22
Boulogne -	France -	10 50	Dungarvon -	Ireland -	4 30
Brassa Sound -	Shetland -	10 0	Dungeness -	England -	10 50
Bree Bank -	North Sea -	3 30	Dunkerque -	France -	11 40
Brest Harbour	France -	3 48	Eddystone -	English Chan.	5 15
Bridgewater -	England -	6 45	Exmouth Bar -	England -	6 25
Bridlington -	England -	4 30	Eyemouth -	Scotland -	2 15
Bridport -	England -	6 0	Falmouth -	England -	5 15
Brighton -	England -	10 5	Flamboro' Head -	England -	4 30
Brielle -	Netherlands -	3 0	Flatholm -	England -	6 37
Bristol -	England -	7 16	Flushing -	Netherlands -	1 20
Brouwershaven	Netherlands -	2 0	Foreland (North)	England -	11 45
Buchan Ness -	Scotland -	12 0	Foreland (South)	England -	11 20
Burnt Island -	Scotland -	2 30	Fowey -	England -	5 30
Cairston -	Orkneys -	9 0	Galloway -	-	11 1
Calais -	France -	11 30	Galway -	-	-
Caldy Island -	Coast of Wales -	6 0	Goeree -	-	-
Calf of Man -	St. Geo. Channel	11 5	Goody -	-	-
Cancale Bay -	France -	6 0	Gravel -	-	-
Cantire (Mull)	Scotland -	9 0	Gravel -	-	-
Cardigan Bar -	Wales -	7 0	Gravel -	-	-
Caermarthen Bar	Wales -	6 10	Gravel -	-	-

OF HIGH WATER, ON THE FULL AND CHANGE OF THE MOON,
AT THE UNDERMENTIONED PORTS AND PLACES.

PLACE.	SITUATION.	Time of High Water.		PLACE.	SITUATION.	Time of High Water.	
		h	m			h	m
Rock - -	W. C. of Scotland	11	45	Portland Race - -	England - -	9	15
sey Pier -	English Channel	6	30	Portland Road - -	England - -	6	15
et - -	River Thames	12	0	Port Patrick - -	Scotland - -	11	0
epool - -	England - -	3	45	Portsmouth Dock Yd.	England - -	11	40
ich - -	England - -	11	30	Rathlin I., Church Bay	N. C. of Irel.	9	0
ngs - -	England - -	10	36	Ramsgate Harbour	England - -	11	46
de Grace	France - -	10	30	Rye Harbour - -	England - -	10	40
's (St.) -	England - -	11	0	Salcombe - - -	England - -	5	50
oland - -	German Ocean	11	0	Saltees - - -	Ireland - -	5	40
voetsluis	Holland - -	2	0	Scalloway - - -	Shetland - -	9	45
ley Bay -	England - -	11	30	Scarborough - -	England - -	4	25
ead Bay -	Wales - -	10	0	Scilly Islands - -	England - -	4	32
Point - -	Jutland - -	12	0	Seaford - - -	England - -	10	15
h Harbour	Ireland - -	11	8	Selsea Harbour -	England - -	11	15
- - -	England - -	6	0	Shannon Mouth -	Ireland - -	3	50
ch - - -	England - -	12	0	Sheerness Dock Yard	England - -	0	39
e Bas - -	France - -	3	17	Shields - - -	England - -	3	0
(St. Aubin's)	English Channel	6	10	Shoreham Harbour	England - -	11	15
are River	Ireland - -	3	30	Skerries - - -	Ireland - -	4	45
s Road -	Bristol Channel	6	45	Sligo Bay - - -	Ireland - -	6	45
le Harbour	Ireland - -	4	30	Solebay - - -	England - -	10	30
udbright -	Scotland - -	11	15	Southampton - -	England - -	11	40
s End - -	England - -	4	30	Spithead - - -	England - -	9	30
Pier - -	Scotland - -	2	22	Spurn Point - -	England - -	5	20
ck Harbour	Shetland - -	10	30	St. Ives - - -	England - -	4	30
Islands -	Scotland - -	6	0	St. Malo - - -	France - -	6	0
pool Dock	England - -	11	22	Stromness - - -	Orkneys - -	9	0
on Bridge -	River Thames	2	7	Sunderland - -	England - -	3	0
ate Pier -	England - -	11	15	Swansea Bay - -	Wales - -	5	56
rd Haven Ent.	Wales - -	5	45	Tay Bar - - -	Scotland - -	1	45
ead Pier -	England - -	6	30	Tees River Bar -	England - -	3	30
rose - -	Scotland - -	1	45	Terschelling, West	Holland - -	8	40
ix - - -	N. C. of France	5	15	Texel, Helder Road	Holland - -	9	0
t's Bay -	England - -	4	40	E. Stream - - -			
es Point -	Isle of Wight	9	45	Torbay - - -	England - -	6	5
astle - -	England - -	4	0	Tralee Bay - - -	Ireland - -	3	45
ort - - -	Wales - -	6	45	Tynemouth Bar -	England - -	2	50
ort - - -	France - -	11	45	Waterford Harbour	Ireland - -	5	50
Light - -	River Thames	1	9	Wexford Harbour -	Ireland - -	7	30
dness - -	England - -	10	40	Weymouth - - -	England - -	6	30
y Isles -	Scotland - -	10	30	Whitby - - -	England - -	3	45
d - - -	Flanders - -	0	10	Wicklow - - -	Ireland - -	9	0
roke Dock Yd.	Wales - -	6	4	Wisbeach - - -	England - -	7	30
- - -	Scotland - -	10	30	Wranger Oog - -	E. Friesland	12	0
- - -	England - -	4	30	Yarmouth Roads -	England - -	8	40
- - -	land - -	0	45	Yarmouth Sands -	England - -	10	30
- - -	orland - -	5	33	Yorkshire Coast -	England - -	6	0
				Youghall - - -	Ireland - -	5	0

TABLE, SHOWING THE CORRECTION REQUIRED ON ACCOUNT OF SECOND DIFFERENCES,

In finding the Greenwich Time corresponding to a reduced Lunar Distance.

*Arguments:—*Approximate Interval and Difference of Proportional Logarithms.

Approximate Interval.				Difference of the Proportional Logarithms in the Ephemeris.																	
				2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	0	0	0	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
0	20	2	40	0	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4	4
0	30	2	30	0	1	1	2	2	2	2	3	3	3	4	4	5	5	5	6	6	6
0	40	2	20	0	1	1	2	2	3	3	3	4	4	5	5	6	6	6	7	7	7
0	50	2	10	1	1	2	2	3	3	3	4	4	5	5	6	6	7	7	8	8	8
1	0	2	0	1	1	2	2	3	3	4	4	5	6	6	7	7	8	8	9	9	10
1	10	1	50	1	1	2	2	3	4	4	5	5	6	6	7	8	8	9	9	10	11
1	20	1	40	1	1	2	3	3	4	4	5	6	6	7	7	8	9	9	10	11	12
1	30	1	30	1	1	2	3	3	4	4	5	6	6	7	8	8	9	9	10	11	12
				Difference of the Proportional Logarithms in the Ephemeris.																	
				54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	6
0	20	2	40	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	11	11	11
0	30	2	30	9	10	10	10	11	11	12	12	12	13	13	13	14	14	14	15	15	16
0	40	2	20	12	12	13	13	13	14	14	15	15	16	16	16	17	17	18	18	19	19
0	50	2	10	14	14	15	15	16	16	16	17	17	18	19	19	20	20	21	21	22	22
1	0	2	0	15	16	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24
1	10	1	50	16	17	17	18	18	19	19	20	21	21	22	22	23	23	24	24	25	25
1	20	1	40	17	17	18	19	19	20	20	21	21	22	23	23	24	25	25	26	26	27
1	30	1	30	17	18	18	19	19	20	21	21	22	23	23	24	24	25	25	26	27	28
				Difference of the Proportional Logarithms in the Ephemeris.																	
				104	106	108	110	112	114	116	118	120	122	124	126	128	130	132	134	136	138
h	m	h	m	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	10	2	50	7	7	7	7	7	7	8	8	8	8	8	8	8	8	8	9	9	9
0	20	2	40	13	13	13	14	14	14	14	15	15	15	15	15	16	16	16	16	17	17
0	30	2	30	18	18	19	19	19	20	20	20	21	21	21	22	22	22	23	23	24	24
0	40	2	20	22	23	23	24	24	25	25	25	26	26	27	27	28	28	28	29	29	30
0	50	2	10	26	26	27	27	28	29	29	29	30	30	31	31	32	32	33	33	34	34
1	0	2	0	29	29	30	30	31	31	32	33	33	34	34	35	35	36	37	37	38	38
1	10	1	50	31	31	32	32	33	34	34	35	35	36	37	37	38	38	39	40	40	41
1	20	1	40	32	33	33	34	34	35	35	36	37	38	38	39	39	40	41	41	42	42
1	30	1	30	32	33	34	34	35	35	36	36	37	38	39	39	40	40	41	42	42	43

The Correction is to be added to the approximate Greenwich Time when the Proportional Logarithms in the Ephemeris are decreasing, and subtracted when they are increasing.

ABLES FOR DETERMINING THE LATITUDE BY OBSERVATIONS
OF THE POLE STAR OUT OF THE MERIDIAN.

TABLE I.

Containing the *First* Correction.*Argument*:—Sidereal Time of Observation.

Sidereal Time.	Correction.	Sidereal Time.	Sidereal Time.	Correction.	Sidereal Time.
^h ^m	^o ['] ["] ⁺	^h ^m	^h ^m	^o ['] ["] ⁺	^h ^m
0 0	— 1 28 14 +	12 0	6 0	— 0 24 53 +	18 0
10	1 29 14	10	10	0 21 1	10
20	1 30 3	20	20	0 17 6	20
30	1 30 43	30	30	0 13 9	30
40	1 31 12	40	40	0 9 11	40
50	1 31 31	50	50	0 5 12	50
1 0	1 31 40	13 0	7 0	— 0 1 12 +	19 0
10	1 31 37	10	10	+ 0 2 48 —	10
20	1 31 25	20	20	0 6 48	20
30	1 31 2	30	30	0 10 46	30
40	1 30 29	40	40	0 14 44	40
50	1 29 45	50	50	0 18 40	50
2 0	1 28 51	14 0	8 0	0 22 34	20 0
10	1 27 47	10	10	0 26 25	10
20	1 26 32	20	20	0 30 13	20
30	1 25 8	30	30	0 33 58	30
40	1 23 35	40	40	0 37 39	40
50	1 21 51	50	50	0 41 16	50
3 0	1 19 59	15 0	9 0	0 44 47	21 0
10	1 17 58	10	10	0 48 14	10
20	1 15 46	20	20	0 51 35	20
30	1 13 27	30	30	0 54 51	30
40	1 10 59	40	40	0 58 0	40
50	1 8 23	50	50	1 1 2	50
4 0	1 5 40	16 0	10 0	1 3 58	22 0
10	1 2 49	10	10	1 6 46	10
20	0 59 50	20	20	1 9 27	20
30	0 56 45	30	30	1 11 59	30
40	0 53 33	40	40	1 14 24	40
50	0 50 16	50	50	1 16 40	50
5 0	0 46 52	17 0	11 0	1 18 47	23 0
10	0 43 23	10	10	1 20 45	10
20	0 39 49	20	20	1 22 34	20
		30	30	1 24 13	30
		40	40	1 25 43	40
			50	1 27 3	50
6			12 0	+ 1 28 14 —	24 0

TABLE II.

Containing the *Second Correction. (always to be added.)**Arguments:—Sidereal Time and Approximate Latitude.*

Sidereal Time.		Approximate Latitude.										Sidereal Time.			
		0°	5°	10°	15°	20°	25°	30°	35°						
h	m	'	"	'	"	'	"	'	"	'	"	'	"	h	m
0	0	0	0	0	1	0	1	0	2	0	3	0	3	0	0
	30	0	0	0	0	0	0	0	0	0	1	0	1		30
1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	30	0	0	0	0	0	0	0	0	0	0	1	1		30
2	0	0	0	0	0	0	1	0	1	0	2	0	2	2	0
	30	0	0	0	1	0	2	0	3	0	4	0	5		30
3	0	0	0	0	2	0	3	0	5	0	6	0	8	3	0
	30	0	0	0	2	0	5	0	7	0	9	0	12		30
4	0	0	0	0	3	0	6	0	9	0	13	0	17	4	0
	30	0	0	0	4	0	8	0	12	0	16	0	21		30
5	0	0	0	0	5	0	10	0	15	0	20	0	25	5	0
	30	0	0	0	5	0	11	0	17	0	23	0	29		30
6	0	0	0	0	6	0	12	0	18	0	25	0	32	6	0
	30	0	0	0	6	0	13	0	19	0	26	0	34		30
7	0	0	0	0	6	0	13	0	20	0	27	0	34	7	0
	30	0	0	0	6	0	13	0	19	0	26	0	34		30
8	0	0	0	0	6	0	12	0	18	0	25	0	32	8	0
	30	0	0	0	6	0	11	0	17	0	23	0	30		30
9	0	0	0	0	5	0	10	0	15	0	20	0	26	9	0
	30	0	0	0	4	0	9	0	13	0	17	0	22		30
10	0	0	0	0	3	0	7	0	10	0	14	0	18	10	0
	30	0	0	0	2	0	5	0	8	0	10	0	13		30
11	0	0	0	0	2	0	3	0	5	0	7	0	9	11	0
	30	0	0	0	1	0	2	0	3	0	4	0	5		30
12	0	0	0	0	0	0	1	0	1	0	2	0	3	12	0

TABLE III. (*for 1841.*)Containing the *Third Correction. (always to be added.)**Arguments:—Sidereal Time and Date.*

Sidereal Time.	Jan. 1.	Feb. 1.	March 1.	April 1.	May 1.	June 1.	July 1.
^h	['] ["]	['] ["]	['] ["]	['] ["]	['] ["]	['] ["]	['] ["]
0	0 44	0 41	0 34	0 24	0 17	0 13	0 15
2	0 52	0 54	0 50	0 43	0 33	0 26	0 23
4	1 2	1 9	1 10	1 5	0 57	0 48	0 40
6	1 12	1 21	1 26	1 27	1 22	1 13	1 3
8	1 19	1 28	1 36	1 40	1 41	1 35	1 26
10	1 20	1 27	1 36	1 43	1 48	1 47	1 41
12	1 16	1 19	1 26	1 36	1 43	1 47	1 45
14	1 8	1 6	1 10	1 17	1 27	1 34	1 3
16	0 58	0 51	0 50	0 55	1 3	1 12	1 1
18	0 48	0 39	0 34	0 33	0 38	0 47	0
20	0 41	0 32	0 24	0 20	0 19	0 25	0
22	0 40	0 33	0 24	0 17	0 12	0 13	0
24	0 44	0 41	0 34	0 24	0 17	0 13	0

TABLE II.

Containing the *Second Correction.* (*always to be added.*)

Arguments:—Sidereal Time and Approximate Latitude.

Sidereal Time.	Approximate Latitude.								Sidereal Time.
	35°	40°	45°	50°	55°	60°	65°	70°	
h m	° "	° "	° "	° "	° "	° "	° "	° "	h m
0 0	0 4	0 5	0 5	0 6	0 8	0 9	0 12	0 15	0 0
30	0 1	0 1	0 2	0 2	0 2	0 3	0 3	0 4	30
1 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	1 0
30	0 1	0 1	0 1	0 1	0 1	0 2	0 2	0 3	30
2 0	0 3	0 4	0 4	0 5	0 6	0 8	0 10	0 12	2 0
30	0 7	0 9	0 10	0 12	0 14	0 17	0 22	0 28	30
3 0	0 12	0 15	0 17	0 21	0 25	0 30	0 38	0 48	3 0
30	0 18	0 22	0 26	0 31	0 37	0 45	0 56	1 12	30
4 0	0 25	0 30	0 36	0 43	0 51	1 2	1 17	1 38	4 0
30	0 32	0 38	0 45	0 54	1 5	1 18	1 37	2 4	30
5 0	0 38	0 46	0 54	1 5	1 17	1 34	1 56	2 29	5 0
30	0 43	0 52	1 2	1 14	1 28	1 47	2 13	2 50	30
6 0	0 48	0 57	1 8	1 21	1 37	1 58	2 26	3 7	6 0
30	0 50	1 0	1 12	1 26	1 43	2 4	2 34	3 17	30
7 0	0 51	1 2	1 13	1 27	1 45	2 7	2 37	3 21	7 0
30	0 51	1 1	1 12	1 26	1 43	2 5	2 35	3 19	30
8 0	0 48	0 58	1 9	1 22	1 38	1 59	2 28	3 9	8 0
30	0 44	0 53	1 3	1 15	1 30	1 50	2 16	2 54	30
9 0	0 39	0 47	0 56	1 7	1 20	1 37	2 0	2 33	9 0
30	0 33	0 40	0 47	0 56	1 7	1 22	1 41	2 9	30
10 0	0 26	0 32	0 38	0 45	0 54	1 5	1 21	1 43	10 0
30	0 19	0 24	0 28	0 34	0 40	0 49	1 0	1 17	30
11 0	0 13	0 16	0 19	0 23	0 27	0 33	0 41	0 53	11 0
30	0 8	0 10	0 11	0 14	0 16	0 20	0 25	0 31	30
12 0	0 4	0 4	0 5	0 6	0 8	0 9	0 12	0 15	12 0

TABLE III. (*for 1841.*)

Containing the *Third Correction.* (*always to be added.*)

Arguments:—Sidereal Time and Date.

Sidereal Time.	July 1.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 1.	Dec. 1.	Dec. 31.
h	° "	° "	° "	° "	° "	° "	° "
0	0 15	0 21	0 32	0 43	0 54	1 3	1 6
2	0 23	0 24	0 30	0 40	0 51	1 2	1 9
4	0 40	0 36	0 37	0 42	0 50	1 0	1 10
6	1 3	0 55	0 50	0 49	0 52	0 59	1 8
8	1 26	1 15	1 5	0 59	0 56	0 58	1 4
10	1 41	1 31	1 19	1 9	1 1	0 57	0 59
12	1 45	1 39	1 28	1 17	1 6	0 57	0 54
14			1 30	1 20	1 9	0 58	0 51
16			23	1 18	1 10	1 0	0 50
18				1 11	1 8	1 1	0 52
20				1 1	1 4	1 2	0 56
22				0 51	0 59	1 3	1 1
24				43	0 54	1 3	1 6

TABLE

or converting INTERVALS of MEAN SOLAR Time into Equivalent INTERVALS of SIDEREAL Time.

FRACTIONS OF A SECOND.

	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.	Seconds of Mean Time.	Equivalents in Sidereal Time.
1	0°01003	0°34	0°34093	0°67	0°67183
2	0°02006	0°35	0°35096	0°68	0°68186
3	0°03008	0°36	0°36099	0°69	0°69189
4	0°04011	0°37	0°37101	0°70	0°70192
5	0°05014	0°38	0°38104	0°71	0°71194
6	0°06016	0°39	0°39107	0°72	0°72197
7	0°07019	0°40	0°40110	0°73	0°73200
8	0°08022	0°41	0°41112	0°74	0°74203
9	0°09025	0°42	0°42115	0°75	0°75205
0	0°10027	0°43	0°43118	0°76	0°76208
1	0°11030	0°44	0°44120	0°77	0°77211
2	0°12033	0°45	0°45123	0°78	0°78214
3	0°13036	0°46	0°46126	0°79	0°79216
4	0°14038	0°47	0°47129	0°80	0°80219
5	0°15041	0°48	0°48131	0°81	0°81222
6	0°16044	0°49	0°49134	0°82	0°82225
7	0°17047	0°50	0°50137	0°83	0°83227
8	0°18049	0°51	0°51140	0°84	0°84230
9	0°19052	0°52	0°52142	0°85	0°85233
0	0°20055	0°53	0°53145	0°86	0°86235
1	0°21057	0°54	0°54148	0°87	0°87238
2	0°22060	0°55	0°55151	0°88	0°88241
3	0°23063	0°56	0°56153	0°89	0°89244
4	0°24066	0°57	0°57156	0°90	0°90246
5	0°25068	0°58	0°58159	0°91	0°91249
6	0°26071	0°59	0°59162	0°92	0°92252
7	0°27074	0°60	0°60164	0°93	0°93255
8	0°28077	0°61	0°61167	0°94	0°94257
9	0°29079	0°62	0°62170	0°95	0°95260
0	0°30082	0°63	0°63173	0°96	0°96263
1	0°31085	0°64	0°64175	0°97	0°97266
2	0°32088	0°65	0°65178	0°98	0°98268
3	0°33091			0°99	0°99271

This TABLE is useful for the conversion of MEAN SOLAR into SIDEREAL Time.
 Sidereal Time required = Sidereal Time at the preceding Mean Noon + the Equivalent to the given Mean Time.
 EXAMPLE.—To convert 2^h 22^m 25^s.62 Mean Time at Greenwich, Jan. 2, 1841, into Sidereal Time.

Sidereal Time at the preceding Mean Noon, viz. January 2	18 ^h 47 ^m 47 ^s .76
For Mean Intervals.	2 ^h 0 ^m 0 ^s
The Table gives the Equivalent Sidereal Intervals,	22 0 19.71
	22 3.61
	25.07
	0.62
The Sum is the Sidereal Time required,	21 10 36.77

TABLE
For converting INTERVALS of SIDEREAL Time into Equivalent INTERVALS
MEAN SOLAR Time.

HOURS.			MINUTES.			SECONDS.		
Hours of Sidereal Time.	Equivalents in Mean Time.		Minutes of Sidereal Time.	Equivalents in Mean Time.		Seconds of Sidereal Time.	Equivalents in Mean Time.	
	^h	^m ^s		^m ^s			^s	
1	0	59 50'1704	1	0 59'8362	31	30 54'9214	1	0'9973
2	1	59 40'3409	2	1 59'6723	32	31 54'7576	2	1'9945
3	2	59 30'5113	3	2 59'5085	33	32 54'5937	3	2'9918
4	3	59 20'6818	4	3 59'3447	34	33 54'4299	4	3'9891
5	4	59 10'8522	5	4 59'1809	35	34 54'2661	5	4'9864
6	5	59 1'0226	6	5 59'0170	36	35 54'1023	6	5'9836
7	6	58 51'1931	7	6 58'8532	37	36 53'9384	7	6'9809
8	7	58 41'3635	8	7 58'6894	38	37 53'7746	8	7'9782
9	8	58 31'5340	9	8 58'5256	39	38 53'6108	9	8'9754
10	9	58 21'7044	10	9 58'3617	40	39 53'4470	10	9'9727
11	10	58 11'8748	11	10 58'1979	41	40 53'2831	11	10'9700
12	11	58 2'0453	12	11 58'0341	42	41 53'1193	12	11'9672
13	12	57 52'2157	13	12 57'8703	43	42 52'9555	13	12'9645
14	13	57 42'3862	14	13 57'7064	44	43 52'7917	14	13'9618
15	14	57 32'5566	15	14 57'5426	45	44 52'6278	15	14'9591
16	15	57 22'7270	16	15 57'3788	46	45 52'4640	16	15'9563
17	16	57 12'8975	17	16 57'2150	47	46 52'3002	17	16'9536
18	17	57 3'0679	18	17 57'0511	48	47 52'1364	18	17'9509
19	18	56 53'2384	19	18 56'8873	49	48 51'9725	19	18'9481
20	19	56 43'4088	20	19 56'7235	50	49 51'8087	20	19'9454
21	20	56 33'5792	21	20 56'5597	51	50 51'6449	21	20'9427
22	21	56 23'7497	22	21 56'3958	52	51 51'4810	22	21'9399
23	22	56 13'9201	23	22 56'2320	53	52 51'3172	23	22'9372
24	23	56 4'0906	24	23 56'0682	54	53 51'1534	24	23'9345
			25	24 55'9044	55	54 50'9896	25	24'9318
			26	25 55'7405	56	55 50'8257	26	25'9290
			27	26 55'5767	57	56 50'6619	27	26'9263
			28	27 55'4129	58	57 50'4981	28	27'9236
			29	28 55'2490	59	58 50'3343	29	28'9208
			30	29 55'0852	60	59 50'1704	30	29'9181

TABLE
For converting INTERVALS of SIDEREAL Time into Equivalent INTERVALS of
MEAN SOLAR Time.

FRACTIONS OF A SECOND.

Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.	Seconds of Sidereal Time.	Equivalents in Mean Time.
0°01	0°00997	0°34	0°33907	0°67	0°66817
0°02	0°01995	0°35	0°34904	0°68	0°67814
0°03	0°02992	0°36	0°35902	0°69	0°68812
0°04	0°03989	0°37	0°36899	0°70	0°69809
0°05	0°04986	0°38	0°37896	0°71	0°70806
0°06	0°05984	0°39	0°38894	0°72	0°71803
0°07	0°06981	0°40	0°39891	0°73	0°72801
0°08	0°07978	0°41	0°40888	0°74	0°73798
0°09	0°08975	0°42	0°41885	0°75	0°74795
0°10	0°09973	0°43	0°42883	0°76	0°75793
0°11	0°10970	0°44	0°43880	0°77	0°76790
0°12	0°11967	0°45	0°44877	0°78	0°77787
0°13	0°12965	0°46	0°45874	0°79	0°78784
0°14	0°13962	0°47	0°46872	0°80	0°79782
0°15	0°14959	0°48	0°47869	0°81	0°80779
0°16	0°15956	0°49	0°48866	0°82	0°81776
0°17	0°16954	0°50	0°49864	0°83	0°82773
0°18	0°17951	0°51	0°50861	0°84	0°83771
0°19	0°18948	0°52	0°51858	0°85	0°84768
0°20	0°19945	0°53	0°52855	0°86	0°85765
0°21	0°20943	0°54	0°53853	0°87	0°86762
0°22	0°21940	0°55	0°54850	0°88	0°87760
0°23	0°22937	0°56	0°55847	0°89	0°88757
0°24	0°23934	0°57	0°56844	0°90	0°89754
0°25	0°24932	0°58	0°57842	0°91	0°90752
0°26	0°25929	0°59	0°58839	0°92	0°91749
0°27	0°26926	0°60	0°59836	0°93	0°92746
0°28	0°27924	0°61	0°60833	0°94	0°93743
		0°62	0°61831	0°95	0°94741
		0°63	0°62828	0°96	0°95738
			0°63825	0°97	0°96735
			0°64822	0°98	0°97732
				0°99	0°98730

This TABLE is useful for the conversion of SIDEREAL into MEAN SOLAR Time.
Mean Solar Time required = Mean Time at the preceding Sidereal Noon + the Equivalent to the given Sidereal Time.
EXAMPLE.—To convert 21^h 10^m 36^s·77 Sidereal Time at Greenwich, Jan. 2, 1841, into Mean Time.

Mean Time at the preceding Sidereal Noon, viz. January 1 5 15 17·01
For Sidereal 21^h 10^m 36^s·77 } The Table gives the Equivalent
Intervals. 10 0 } Mean Intervals, 9 58·36
 36 0·77 } 35·90
 0·77 } 77
The Sum is the Mean Time required, Jan. 2 2 22 25·62

LATITUDES AND LONGITUDES OF THE PRINCIPAL OBSERVATORIES.

The Longitudes are reckoned from the Meridian of Greenwich.

North Latitudes and West Longitudes are indicated by the sign + :

South Latitudes and East Longitudes by the sign —.

ABERDEEN - - - -	(Marischal College.)	
	Lat. + 57° 8' 57".8	} Mr. George Innes, <i>Ast. Nach.</i> vol. x. page 211.
	Long. + 0 ^h 8 ^m 22 ^s .78	
ABO - - - -	Lat. + 60° 26' 57"	} <i>Argelander's Observations</i> , vol. page 21, and vol. ii. pages 25, <i>Ast. Nach.</i> vol. ix. page 264.
	Long. — 1 ^h 29 ^m 8 ^s .8	
ALTONA - - - -	(Prof. Schumacher.)	
	Lat. + 53° 32' 45"	} <i>Gauss on the Latitudes of Göttingen and Altona</i> , page 71. (Göttingen, 1831) <i>Ast. Nach.</i> vol. viii. page 132.
	Long. — 0 ^h 39 ^m 46 ^s .6	
ARMAGH - - - -	Lat. + 54° 21' 12".7	} Communicated by the Rev. Robinson.
	Long. + 0 ^h 26 ^m 35 ^s .5	
BEDFORD - - - -	(Capt. Smyth, R.N.)	
	Lat. + 52° 8' 27".6	} <i>Mem. Ast. Soc.</i> vol. v. page 31
	Long. + 0 ^h 1 ^m 51 ^s .97	
BERLIN - - - -	Lat. + 52° 31' 13".5	} <i>Berliner Astron. Jahrbuch</i> 1833, page 249.
	Long. — 0 ^h 53 ^m 35 ^s .5	
—— (New Observ ^y)	Lat. + 52° 30' 16".0	} <i>Berliner Astron. Jahrbuch</i> 1839, page 240.
	Long. — 0 ^h 53 ^m 35 ^s .3	
BLACKHEATH - - - -	(Mr. Wrottesley.)	
	Lat. + 51° 28' 2"	} <i>Mem. of Royal Ast. Soc.</i> vol. page 161.
	Long. — 0 ^h 0 ^m 2 ^s .7	
BREMEN - - - -	(Dr. Olbers.)	
	Lat. + 53° 4' 36"	} <i>Ast. Nach.</i> vol. i. page 240. This is the mean of the res given in <i>Ast. Nach.</i> vol. i. page 240; vol. iv. p 392; vol. v. page 247; vol. viii. pages 131 and 132.
	Long. — 0 ^h 35 ^m 15 ^s .9	
BRUSSELS - - - -	(Prof. Quetelet.)	
	Lat. + 50° 51' 10".7	} <i>Annuaire de l'observatoire</i> <i>Bruzelles, pour l'An 1837</i> pages 264 and 265.
	Long. — 0 ^h 17 ^m 29 ^s .0	
BUDA - - - -	(Ofen.)	
	Lat. + 47° 29' 12".2	} <i>Zeitschrift für Astronom</i> page 70; and <i>Mem. Ast. Soc.</i> vol. i. pa 1 ^h 16 ^m 12 ^s .7 <i>Zach's Correspond. Ast</i> page 263; and <i>Zeitschrift für Astronom</i> page 507.
	Long. — 1 ^h 16 ^m 12 ^s .7	

LATITUDES AND LONGITUDES OF THE PRINCIPAL OBSERVATORIES.

BUSHEY HEATH	- -	(Colonel Beaufoy.)	
		Lat. + 51° 37' 44''·3	} <i>Mem. Ast. Soc.</i> vol. ii. page 129.
		Long. + 0 ^h 1 ^m 20 ^s ·93	
CAMBRIDGE	- - -	Lat. + 52° 12' 51''·8	<i>Camb. Phil. Trans.</i> vol. v. p. 279.
		Long. — 0 ^h 0 ^m 23 ^s ·54	<i>Camb. Phil. Trans.</i> vol. iii. p. 168.
CAPE OF GOOD HOPE	-	Lat. — 33° 56' 3''	<i>Mem. Roy. Ast. Soc.</i> vol. vi. page 130.
		Long. — 1 ^h 13 ^m 55 ^s ·0	Communicated by Mr. Henderson.
CHRISTIANA	- - -	Lat. + 59° 54' 5''	<i>Ast. Nach.</i> vol. vi. page 148.
		Long. — 0 ^h 42 ^m 59 ^s ·8	<i>Ast. Nach.</i> vol. v. page 382.
COPENHAGEN	- - -	(University.)	
		Lat. + 55° 40' 53''	<i>Ast. Nach.</i> vol. v. page 366.
		Long. — 0 ^h 50 ^m 19 ^s ·8	<i>Ast. Nach.</i> vol. ix. page 164.
CRACOW	- - -	Lat. + 50° 3' 49''·7	<i>Ast. Nach.</i> vol. viii. page 176; and vol. x. page 228.
		Long. — 1 ^h 19 ^m 52 ^s ·45	<i>Ast. Nach.</i> vol. x. page 232.
DORPAT	- - -	Lat. + 58° 22' 47''	<i>Struve's Astronom. Observations</i> , vol. vi. page 60.
		Long. — 1 ^h 46 ^m 55 ^s	<i>Bessel's Tabulæ Regiomontanæ</i> , page 2.
DUBLIN	- - -	Lat. + 53° 23' 13''	} <i>Ast. Nach.</i> vol. x. page 274.
		Long. + 0 ^h 25 ^m 22 ^s	
EDINBURGH	- - -	Lat. + 55° 57' 23''·2	<i>Ast. Soc. Not.</i> vol. iii. page 201.
		Long. + 0 ^h 12 ^m 43 ^s ·6	<i>Mem. Ast. Soc.</i> vol. iv. page 568.
FLORENCE	- - -	(St. Giovanni.)	
		Lat. + 43° 46' 41''·4	} <i>Zach's Correspondance Astrono-</i> <i>mique</i> , vol. i. pages 1 to 14.
		Long. — 0 ^h 45 ^m 3 ^s ·6	
GENEVA	- - -	Lat. + 46° 11' 59''·4	<i>Mémoire sur une nouvelle déter-</i> <i>mination sur la Latitude de</i> <i>Genève.</i> By M. Gautier. (Ge- nève, 1830.)
		Long. — 0 ^h 24 ^m 37 ^s ·5	<i>Ast. Nach.</i> vol. viii. page 260.
GOTHA	- - -	(Seeberg.)	
		Lat. + 50° 56' 5''	<i>Gauss on the Latitudes of Göt-</i> <i>tingen and Altona</i> , page 80.
		Long. — 0 ^h 42 ^m 56 ^s ·4	<i>Bessel's Tab. Reg.</i> page 2.
		+ 51° 31' 48''	<i>Gauss on the Latitudes of Göt-</i> <i>tingen and Altona</i> , page 71.
		— 0 ^h 39 ^m 46 ^s ·5	<i>Bessel's Tab. Reg.</i> page 2.

LATITUDES AND LONGITUDES OF THE PRINCIPAL OBSERVATORIES.

GREENWICH	- - -	Lat. + 51° 28' 39" .0	<i>Mem. Ast. Soc.</i> vol. ii. page and 529.
		Long. 0 ^h 0 ^m 0 ^s	
KENSINGTON	- - -	(Sir James South.)	
		Lat. + 51° 30' 12" .7	} <i>Mem. Ast. Soc.</i> vol. v. page
		Long. + 0 ^h 0 ^m 46 ^s .78	
KEW	- - -	Lat. + 51° 28' 37"	} <i>Baily's Astron. Tables and</i>
		Long. + 0 ^h 1 ^m 3 ^s	
			<i>mulæ</i> , page 123. (London
KÖNIGSBERG	- - -	Lat. + 54° 42' 50"	<i>Introduction to Bessel's A</i>
		Long. — 1 ^h 22 ^m 0 ^s .5	<i>Observations for 1821.</i>
			<i>Bessel's Tab. Reg.</i> page 2.
KREMSMUNSTER	- - -	Lat. + 48° 3' 29"	<i>Ast. Nach.</i> vol. vi. page 67.
		Long. — 0 ^h 56 ^m 32 ^s .3	<i>Ast. Nach.</i> vol. iii. page 121
MADRAS	- - -	Lat. + 13° 4' 9" .2	} <i>Taylor's Result of Ast. O</i>
		Long. — 5 ^h 21 ^m 3 ^s .77	
			<i>the Observatory</i> , vol. i. pages 94 & 95. (Madras, 1
MAKERSTOUN	- - -	(Sir T. M. Brisbane.)	
		Lat. + 55° 34' 45"	} <i>Ast. Nach.</i> vol. x. page 214.
		Long. + 0 ^h 10 ^m 4 ^s .0	
MANHEIM	- - -	Lat. + 49° 29' 14"	<i>Zach's Correspondance Ast</i>
		Long. — 0 ^h 33 ^m 51 ^s .4	<i>mique</i> , vol. i. page 193.
			<i>Ast. Nach.</i> vol. ii. page 398.
MARSEILLES	- - -	Lat. + 43° 17' 50" .1	<i>Zach's Attraction des Monta</i>
		Long. — 0 ^h 21 ^m 29 ^s .0	vol. ii. page 591.
			<i>Ast. Nach.</i> vol. iv. page 36.
MILAN	- - -	(Brera.)	
		Lat. + 45° 28' 1"	<i>Zach's Correspondance Ast</i>
		Long. — 0 ^h 36 ^m 47 ^s .2	<i>mique</i> , vol. v. page 300.
			<i>Ast. Nach.</i> vol. ix. page 312
MODENA	- - -	Lat. + 44° 38' 53"	} <i>Effem. Astron. di Milano for</i>
		Long. — 0 ^h 43 ^m 43 ^s .2	
			pages 94 and 60.
MUNICH	- - -	(Bogenhausen.)	
		Lat. + 48° 8' 45"	<i>Ast. Nach.</i> vol. i. page 221.
		Long. — 0 ^h 46 ^m 26 ^s .5	<i>Ast. Nach.</i> vol. viii. page 14
NAPLES	- - -	(Capo di Monte.)	
		Lat. + 40° 51' 46" .6	<i>Ast. Nach.</i> vol. v. page 294.
		Long. — 0 ^h 57 ^m 0 ^s .3	Communicated by N to Captain B. Hall
NICOLÉFF	- - -	Lat. + 46° 58' 20" .6	<i>Ast. Nach.</i> vol. vii. p
		Long. — 2 ^h 7 ^m 55 ^s .1	<i>Ast. Nach.</i> vol. vii. p

LATITUDES AND LONGITUDES OF THE PRINCIPAL OBSERVATORIES.

MSKIRK - - - -	(Rev. W. R. Dawes.)	
	Lat. + 53° 34' 18"	} <i>Mem. Ast. Soc.</i> vol. v. page 370.
	Long. + 0 ^h 11 ^m 36 ^s	
FORD - - - -	Lat. + 51° 45' 40"	} <i>Requisite Tables</i> , 3rd edit. (from
	Long. + 0 ^h 5 ^m 1 ^s 5	
DUA - - - -	Lat. + 45° 24' 2"	<i>Ast. Nach.</i> vol. v. page 411.
	Long. — 0 ^h 47 ^m 29 ^s 2	<i>Ast. Nach.</i> vol. iv. page 347.
PERMO - - - -	Lat. + 38° 6' 44"	<i>Cacciatore</i> , in Books 7 and 8 of
		<i>Palermo Observations.</i>
	Long. — 0 ^h 53 ^m 25 ^s 6	Communicated by M. Cacciatore
		to Captain B. Hall, R.N.
RAMATTA - - -	Lat. — 33° 48' 49 ^{''} 8	} <i>Phil. Trans.</i> for 1829. Part iii.
	Long. — 10 ^h 4 ^m 6 ^s 25	
RIS - - - -	Lat. + 48° 50' 13"	<i>Conn. des Tems</i> for 1835, page
		356.
	Long. — 0 ^h 9 ^m 21 ^s 5	<i>Phil. Trans.</i> for 1827. (<i>Hender-</i>
		<i>son on the Longitudes of Green-</i>
		<i>wich and Paris.</i>)
TERSBURGH - -	Lat. + 59° 56' 31"	<i>Conn. des Tems</i> for 1836, page
		340.
	Long. — 2 ^h 1 ^m 15 ^s 8	<i>Ast. Nach.</i> vol. viii. page 360.
RTSMOUTH - -	Lat. + 50° 48' 3"	} <i>Requisite Tables</i> , 3rd edit. (from
	Long. + 0 ^h 4 ^m 23 ^s 9	
AGUE - - - -	Lat. + 50° 5' 18 ^{''} 5	<i>Ast. Nach.</i> vol. viii. page 198.
	Long. — 0 ^h 57 ^m 41 ^s 9	<i>Ast. Nach.</i> vol. iii. page 264.
ME - - - -	(Roman College.)	
	Lat. + 41° 53' 52"	<i>Conn. des Tems</i> for 1822, page
		312.
	Long. — 0 ^h 49 ^m 54 ^s 7	<i>Ast. Nach.</i> vol. viii. page 88.
FERNANDO, near	} Lat. + 36° 27' 45"	} <i>Zach's Correspondance Astrono-</i>
CADIZ - - - -		
	or 42"	<i>mique</i> , vol. xiv. pages 240 to
		243.
	Long. + 0 ^h 24 ^m 49 ^s 1	<i>Ast. Nach.</i> vol. ix. page 358.
HELENA - - -	Lat. — 15° 55' 26"	} Communicated by Lieut. Johnson.
	Long. + 0 ^h 22 ^m 50 ^s	
	(Sir J. F. W. Herschel.)	
	+ 51° 30' 20"	} <i>Baily's Astron. Tables and For-</i>
	+ 0 ^h 2 ^m 24 ^s	
		<i>mula</i> , p. 124. (London, 1827.)
	Pearson.)	
	25' 51"	} <i>Pearson's Astronomy</i> , vol. ii. page
	26 ^s 0	
		707.

LATITUDES AND LONGITUDES OF THE PRINCIPAL
OBSERVATORIES.

SPEYER - - - -	Lat. + 49° 18' 55".2	<i>Schwerd's Observations.</i>
	Long. — 0 ^h 33 ^m 46 ^s .5	page xx. <i>Ast. Nach.</i> vol. iii. page 41
STRASBURGH - - -	Lat. + 48° 34' 40"	} <i>Comptes Rendus Hebdom.</i> <i>des Séances de L'Acadén</i> <i>Sciences.</i> 2nd Semestre. 1836, pa
	Long. — 0 ^h 31 ^m 0 ^s .8	
TURIN - - - -	(New Observatory.)	} Communicated by M. Pl Captain B. Hall, R.N.
	Lat. + 45° 4' 6"	
VERONA - - - -	(Lyceum.)	(Approximate.) <i>Effem. Astron. di Milano fo</i> page 60.
	Lat. + 45° 26'	
VIENNA - - - -	Long. — 0 ^h 44 ^m 0 ^s .1	
	Lat. + 48° 12' 35"	<i>Littrow's Astron. Obser</i> Part viii. page 124.
VIVIERS - - - -	Long. — 1 ^h 5 ^m 31 ^s .9	<i>Ast. Nach.</i> vol. iii. page 6
	(M. Flaugergues.)	<i>Zach's Correspondance A</i> <i>mique</i> , vol. ii. page 138. <i>Ast. Nach.</i> vol. v. page 25:
	Lat. + 44° 29' 11"	
WILNA - - - -	Long. — 0 ^h 18 ^m 44 ^s .8	
	Lat. + 54° 41' 0"	<i>Ast. Nach.</i> vol. iv. page 56
	Long. — 1 ^h 41 ^m 11 ^s .9	<i>Ast. Nach.</i> vol. viii. page 9

EXPLANATION OF THE ARTICLES

CONTAINED IN

THE NAUTICAL ALMANAC AND ASTRONOMICAL EPHEMERIS
FOR THE YEAR 1841.

ALL the articles of the Ephemeris have been computed for Greenwich MEAN solar time; and where they are given for apparent solar or sidereal time, it has been chiefly for the convenience of astronomers. A *day* is the interval of time between the departure of any meridian from a heavenly body and its succeeding return to it, and derives its name from the body with which the motion of the meridian is compared. The interval between the departure and return of a meridian to the Sun is called a *solar* day; in the case of the Moon, the interval is called a *lunar* day; and in that of a Star, a *sidereal* day. The revolution of the Earth on its axis is always performed in the same time; and if the heavenly bodies preserved the same positions with respect to each other, the intervals between the departure and return of a meridian to each would be the same, and all days, consequently, of equal length. The Sun, (or, more strictly, the Earth in its orbit,) the Moon, and the Planets are, however, in continual motion; and with velocities not only different from each other, but varying in each particular body: the length of a day, as determined by any of these bodies, is therefore a variable quantity.

Astronomers, with the view of obtaining a convenient and uniform measure of time, have recourse to a *mean solar day*, the length of which is equal to the mean or average of all the apparent solar days in a year. An imaginary Sun, called the *mean* Sun, is conceived to move uniformly in the Equator with the real Sun's *mean* motion in Right Ascension, and the interval between the departure of any meridian from the *mean* Sun and its succeeding return to it is the duration of the mean solar day. Clocks and Chronometers are adjusted to mean solar time; so that a complete revolution (through 24 hours) of the hour hand of one of these machines should be performed in exactly the same interval as the revolution of the Earth on its axis with respect to the mean Sun. If the mean Sun could be observed on the meridian at the instant that the clock or chronometer indicated $0^h\ 0^m\ 0^s$, it would again be observed there when the hour hand returned to the same position. As the time deduced from observations of the *true* Sun is called *true* or *apparent* time, so the time deduced from the *mean* Sun, or indicated by the machines which represent its motion, is denominated

mean time. To obtain mean time from observation; but, from an observation with the aid of the equation of time, which is the angular difference between the mean and the true Sun, we may readily deduce it. The time observed on the meridian of Greenwich, Jan. 1, 1841; at that meridian; the equation of time at this instant it at the head of the column, it is "to be added to

apparent time"; hence it appears that the corresponding mean time is $0^h 3^m 58^s.61$, or that the mean Sun had passed the meridian previously to the true Sun, and that at the instant of observation the mean time clock or chronometer ought to indicate this time.

A mere inspection of the columns of the Ephemeris is, of itself, sufficient to show that the quantities are continually varying, and that some reduction is necessary where data are to be obtained for any time differing from that for which the quantities are registered. Take, for instance, the Sun's Right Ascension on Page II. of the month of January; on January 1, it is $18^h 47^m 49^s.72$; on January 2, it is $18^h 52^m 14^s.43$; in the course of 24 mean hours it has therefore increased by $4^m 24^s.71$. If, then, the Right Ascension were required for any time between the Mean Noons of January 1 and 2, as at 6^h from Mean Noon of January 1, it would be necessary to increase the Right Ascension on January 1, by the proportional part of the daily increase due for the 6^h , viz. by one-fourth part, or $1^m 6^s.18$. This would in all cases be required, even under the meridian of Greenwich, for which the quantities have been specially computed. Let a person be now supposed to be under a meridian 15° West of Greenwich. The positions of the heavenly bodies, as referred to the centre of the Earth, are independent of meridians, and are the same for all places at the same absolute instant; but the relative times at Greenwich and the assumed meridian would be different. If it were 1^h from mean noon at the one place, it could not be 1^h from mean noon at the other; for when we speak of time, we mean, as regards a visible phenomenon, the distance of the Sun *westward* from a given meridian, and at the same absolute moment of time the Sun *cannot* be at the same distance (*reckoning westward*) from two meridians which are 15° distant from each other. Before we can make use of the Ephemeris, it is therefore necessary to ascertain, in every instance, the distance of the Sun (*in time*) from the meridian of Greenwich, or what is commonly called the corresponding Greenwich time; and this is evidently equal to the given time under the assumed meridian, *increased* or *diminished* by the difference (*in time*) of the two meridians, according as the assumed meridian is to the *Westward* or *Eastward* of Greenwich. In a mean Solar day, or 24 mean Solar hours, the Earth, by its rotation from West to East, has caused every meridian in succession from East to West to pass the mean Sun; and since the motion is uniform, all the meridians distant from each other 15° will have passed the mean Sun, at intervals of one mean hour; the meridian to the Eastward passing first, or being, as compared with the Sun, always one mean hour in advance of the Westerly meridian. When it is 6^h from mean noon at a place 15° West of Greenwich, it is therefore 7^h from mean noon at Greenwich; and it is for this Greenwich time that we must deduce the quantities required from the Ephemeris.

If a chronometer adjusted to Greenwich mean time be at hand, the Greenwich time may be immediately obtained by applying a correction, deduced from the daily rate and interval elapsed, and this will be preferable in all cases for obtaining the requisite data from the Ephemeris.

The day adopted in this Ephemeris is supposed to begin at mean noon, or at the instant when a clock or chronometer shows $0^h 0^m 0^s$, Greenwich mean time, and is continued through the 24 hours, to the following mean noon, when another day begins. It may therefore be called the *Mean Astronomical Day*, although, in practice, astronomers begin the day at the moment the true Sun's centre is on their meridian.

In the civil, or common, method of reckoning, the day is supposed to commence at the *preceding* midnight, and to be counted only to 12 hours or noon, when the 12 hours are reckoned over again to the next midnight. The civil reckoning is therefore always *12^h in advance* of the astronomical reckoning: and the civil time corresponding

to any given astronomical time is hence readily found by *adding* 12^h to the latter: thus, if to Jan. $1^d 7^h 49^m$, astronomical time, be added 12^h , the sum will be Jan. $1^d 19^h 49^m$, or Jan. $1^d 7^h 49^m$ P.M. civil time. Again, to Jan. $1^d 15^h 35^m$, astronomical time, add 12^h ; the sum will be Jan. $2^d 3^h 35^m$ A.M. civil time. It thus appears that, from noon to midnight, the day of the month and the hour of the day are the same in both methods; but from midnight to noon they differ; for at midnight, when a new civil day commences, the astronomical day wants 12^h of its completion.

The conversion of civil into astronomical time is on the contrary performed by *diminishing* the former by 12^h . Thus, January $2^d 3^h 35^m$ A.M. civil time, diminished by 12^h , leaves January $1^d 15^h 35^m$, for the corresponding astronomical time.

To each month there are devoted twenty-two pages, distinguished by the Roman numerals I. to XXII.

For convenience of interpolation, the quantities that follow next in order of succession have been added at the bottom of each page. Thus the quantities opposite to February 1 will be found inserted also opposite to January 32, the number of the days in each month having been intentionally increased for such purpose.

Page I. of each Month.

The contents of this page are adapted to *Apparent Noon*, or the instant when the Sun's centre is on the meridian of Greenwich. The *Sun's Right Ascension*, here given, is *affected with Aberration*, and reckoned from the true Equinox; it is therefore the Sidereal Time at Apparent Noon, or the time which ought to be shown by a Sidereal Clock, at that instant. The *Sun's Apparent Declination* is the angular distance of the Sun from the Equator, measured on the meridian.

The columns entitled "Diff. for 1 hour" are intended to facilitate the reduction of the quantities from Apparent Noon to any other time. The values of these quantities for any proposed *mean* time will, however, be more accurately ascertained by means of the numbers on page II., from which, indeed, they have been derived.

The *Sidereal Time of the Sun's Semidiameter passing the Meridian* is useful for reducing a transit observation of either limb of the Sun, when one only has been observed, to the transit of the centre.

The *Equation of Time* is the difference between Apparent and Mean Time, and therefore serves for the conversion of either time into the other. The numbers here given, show, for Greenwich Apparent Noon, the distance of the mean Sun from the meridian, or the portion of time to be *added to*, or *subtracted from*, (according to the precept at the head of the column,) Greenwich Apparent Noon to obtain the corresponding Mean Time at the same meridian, or the time which ought to be shown by the Mean Time Clock. It differs from the Equation of Time on page II., because the equation itself varies in the interval between Apparent and Mean Noon.

Where time is deduced from observations of the Sun, the *immediate* result is *apparent* time; to convert it into mean time, the equation of time is necessary, and it is to be applied to apparent time, according to the precept at the head of the column.

Thus, suppose the apparent time deduced from an observation of the Sun on January 16, 1841, in longitude 45° or 3^h east of Greenwich, to be 6^h , and it were required to convert it into mean time: Subtracting the difference of longitude 3^h from the apparent time, we have 3^h for the corresponding apparent time at Greenwich. To convert this into mean time, we add 1 hour is $0^h 834$, which, multiplied by

3, gives $2^{\text{h}} 50^{\text{m}} 2$ for the variation in 3 hours, and this being added (because the equation is increasing) to $10^{\text{m}} 9^{\text{s}} 98$, the equation of time at apparent noon, the result is $10^{\text{m}} 12^{\text{s}} 48$, to be added (according to the precept at the head of the column) to the given apparent time 6^{h} , whence we obtain $6^{\text{h}} 10^{\text{m}} 12^{\text{s}} 48$, for the mean time required.

At page I. of the month of April, we observe, at the head of the column, $\frac{\text{added to}}{\text{subt. from}}$, which signifies that a change of precept occurs in the course of the month; and between the equations opposite to the 15th and 16th days of the month, a black line, indicating that the change occurs between the Mean Noons of those days. The upper precept applies to all the quantities above the black line; and the lower precept to all the quantities below it: that is, in the instance referred to, the Equation of Time is to be *added to* Apparent Time from the 1st of April to the instant at which the equation becomes $0^{\text{m}} 0^{\text{s}}$, which happens between the noons of the 15th and 16th days of the month; but after that instant the equation is to be *subtracted* from Apparent to obtain Mean Time.

Page II. of each Month.

The *Sun's Apparent Right Ascension* and *Declination* at mean noon have been deduced from its *Apparent* longitude and latitude given at page III., and the *apparent* obliquity of the ecliptic at page 266. They denote the *apparent* position of the true Sun with reference to the equator, and the true equinox, at the instant the Greenwich mean time clock, or chronometer, indicates $0^{\text{h}} 0^{\text{m}} 0^{\text{s}}$, or when the hour angle of the true Sun is equal to the equation of time.

To find the Right Ascension and Declination for any other mean time and place, as at $9^{\text{h}} 20^{\text{m}}$ A.M. March 2, 1841, in longitude 98° , or $6^{\text{h}} 32^{\text{m}}$, West of Greenwich. The astronomical time, corresponding to $9^{\text{h}} 20^{\text{m}}$ A.M. March 2, is $21^{\text{h}} 20^{\text{m}}$ from the noon of March 1, or March $1^{\text{d}} 21^{\text{h}} 20^{\text{m}}$, agreeably to what has been said before. The longitude, being West of Greenwich, must be added to March $1^{\text{d}} 21^{\text{h}} 20^{\text{m}}$, and the result, March $2^{\text{d}} 3^{\text{h}} 52^{\text{m}}$, is the corresponding Greenwich mean time, for which the Right Ascension and Declination are to be found. The difference between the Right Ascensions on March 2 and March 3 is $3^{\text{m}} 43^{\text{s}} 75$, that is, in the 24 mean hours succeeding the Mean Noon of March 2, the Right Ascension has increased by this quantity; it will, therefore, have received a proportional part of the increase in $3^{\text{h}} 52^{\text{m}}$, and the amount is readily obtained by this proportion, $24^{\text{h}} : 3^{\text{m}} 43^{\text{s}} 75 :: 3^{\text{h}} 52^{\text{m}} : 36^{\text{s}} 05$; which, being *added* to $22^{\text{h}} 52^{\text{m}} 49^{\text{s}} 47$, the Right Ascension at Mean Noon of March 2, gives $22^{\text{h}} 53^{\text{m}} 25^{\text{s}} 52$, for the Right Ascension at the time proposed.

In a similar manner the Declinations indicate a decrease of $22' 57'' 3$ in the 24 hours; therefore $24^{\text{h}} : 22' 57'' 3 :: 3^{\text{h}} 52^{\text{m}} : 3' 41'' 9$, the proportional part of the decrease for $3^{\text{h}} 52^{\text{m}}$, which, *subtracted* from $S. 7^{\circ} 8' 51'' 1$, leaves $S. 7^{\circ} 5' 9'' 2$, for the Declination required.

The Semidiameter of the Sun. The numbers in this column express the angle at the centre of the earth subtended by the Sun's Semidiameter, and are required for reducing observations of the limb to the centre, as in the instance of meritude of the Sun's upper or lower limb, or the distance of the Moon from

Equation of Time. The numbers in this column are the values of at the instant of Mean Noon, and therefore serve more particularly to *into Apparent Time*: for which purpose we have only to apply the equation to the precept at the head of the column. Thus, if from mean noon

12^h, be subtracted the equation 3^m 57^s 78, the difference 11^h 56^m 2^s 22 is the corresponding apparent time. To find the equation of time at 8^h A.M. mean time on April 16, 1841, in longitude 30°, or 2^h 0^m, West of Greenwich. Add the difference of longitude to the given time, because it is West, and the corresponding astronomical mean time at Greenwich is April 15^d 22^h 0^m. The variation in 24 hours is 14^s 73, that is, the *sum* of the equations belonging to the noons of the 15th and 16th, because the equation has decreased to 0 and then increased in the interval, therefore

$$24^h : 14^s 73 :: 22^h 0^m : 13^s 50,$$

which, being greater than 0^m 0^s 65, the equation on the 15th, which was decreasing, shows that in the 22^h 0^m the equation has passed through its state of decrease to zero, or 0, and is now increasing. The difference 12^s 85 is the equation of time at the time proposed, and is to be added to mean time, because it has passed the zero.

Sidereal Time at Mean Noon is the angular distance of the First point of Aries, or the true Vernal Equinox, from the meridian, at the instant of Mean Noon: it is therefore the Right Ascension of the Mean Sun, or the time which ought to be shown by a Sidereal Clock at Greenwich, when the Mean Time Clock indicates 0^h 0^m 0^s.

A Sidereal Clock represents the rotation of the Earth on its axis, as referred to the Stars, its hour-hand performing a complete revolution through the 24 hours in the interval between the departure of any meridian from a Star and its next return to it. At the moment that the Vernal Equinox, or a Star whose Right Ascension is 0^h 0^m 0^s, is on the meridian of Greenwich, the Sidereal Clock ought to show 0^h 0^m 0^s, and at the succeeding return of the Star, or the Equinox, to the same meridian, the Clock ought to indicate the same time.

The sidereal time here given is that in common use among astronomers, and expresses the actual hour-angle from the meridian, westward, of the true equinoctial point at the moment of observation. It is therefore affected by the equation of the equinoxes; and is not, strictly speaking, a *mean* or uniformly increasing quantity. It ought, therefore, to be termed *apparent sidereal time* in the same manner as apparent solar time reckons from the actual arrival of the sun's centre on the meridian; and in like manner, as mean solar time is reckoned from the arrival of an imaginary sun, moving uniformly with its mean velocity, so *mean sidereal time* (whose expression would be simply $\frac{\odot\text{'s mean longitude}}{15}$) would be reckoned from the transit of, not the

true, but the *mean* equinoctial point. The smallness of the fluctuations to which a clock, regulated to *apparent* sidereal time compared with one regulated to *mean* sidereal time, is subject, being at the utmost only 2^s 3 in a period of nineteen years, has prevented the practical inconvenience of this from being felt: no clock being sufficiently perfect to go during so long a period without frequent re-adjusting; and as the corrections applied by astronomers to the observed right ascensions of all objects are adapted to this supposed irregularity in the rate of the clock, the mean right ascensions thence deduced come out correct. It has, therefore, not been thought necessary, in this instance, to depart from received usage, however theoretically objectionable such a *mean* sidereal time may appear, since a change in this respect would involve the corresponding change in all tables of nutation.

Mean Noon is useful in all cases where mean solar time is to be compared with the positions of the heavenly bodies. It serves to facilitate the comparison of mean solar time, and *vice versâ*, by the help of the tables appended, called a Table of Acceleration of Sidereal on Mean

Solar Time, and the corresponding Table of Retardation of Mean on Sidereal Time; according to the following rule:—Convert the interval from the mean noon immediately preceding, from the denomination given, to that required; and if mean time be required, the result will at once be that which the clock should show; but if sidereal time be that sought, the result must be added to the sidereal time at the preceding mean noon.

Example:—To convert $21^h 9^m 24^s \cdot 04$ sidereal time, Jan. 2, 1841, into mean solar time, for the meridian of Greenwich.

Sidereal time given	- - - - -	$21^h 9^m 24^s \cdot 04$
Sidereal time at mean noon, January 2	- - - - -	$18^h 47^m 47^s \cdot 76$
Interval in sidereal time from mean noon	- - - - -	$2^h 21^m 36^s \cdot 28$
Retardation of mean on sidereal time for the interval	- - - - -	$- 23^m 20^s$
Mean solar time required	- - - - -	$2^h 21^m 13^s \cdot 08$

which is the interval elapsed since mean noon, expressed in mean time; and therefore the time which ought to be shown by a mean time clock.

Vice versâ, to convert $2^h 21^m 13^s \cdot 08$ mean solar time, January 2, 1841, into sidereal time for the same meridian.

Mean interval from mean noon, January 2	- - - - -	$2^h 21^m 13^s \cdot 08$
Acceleration of sidereal on mean time for the interval	- - - - -	$+ 23^m 20^s$
Sidereal interval from mean noon	- - - - -	$2^h 21^m 36^s \cdot 28$
Sidereal time at mean noon, January 2	- - - - -	$18^h 47^m 47^s \cdot 76$
Sidereal time required	- - - - -	$21^h 9^m 24^s \cdot 04$

which ought to be the time shown by the sidereal clock at the instant in question.

If the place of observation be not on the meridian of Greenwich, the sidereal time must be corrected by the *addition* of $9^s \cdot 8565$ for each hour (and proportional parts for the minutes and seconds) of longitude, if the place be to the west of Greenwich; but by its *subtraction*, if to the east. Thus, in $9^h 10^m 6^s$ west longitude, the sidereal time at mean noon, January 2, instead of being, as in the foregoing Example, $18^h 47^m 47^s \cdot 76$, must be corrected by adding $1^m 30^s \cdot 37$, thus giving $18^h 49^m 18^s \cdot 13$ for the time to be used, instead of that set down in the column.

The conversion of mean solar to sidereal time, and *vice versâ*, may, however, be performed, and with perhaps less liability to error, by means of this and of the column entitled *Mean Time of Transit of the First point of Aries*, at page XXII. of each month, using the Tables of Time Equivalents, inserted at pages 558 to 561.

To convert mean solar into sidereal time: To the sidereal time at the *preceding* mean noon add the sidereal interval corresponding to the given mean time; the sum will be the sidereal time required. (See Example at page 559.)

To convert sidereal into mean solar time: To the mean time at the *preceding* sidereal noon, add the mean interval corresponding to the given sidereal time; the sum will be the mean solar time required. (See Example at page 561.)

In this mode of reduction there is not, as in the former, by means of the Tables of Acceleration and Retardation, any distinction of cases, all the quantities being additive.

The Tables of Time Equivalents differ from the Tables of Acceleration and Retardation, in containing the *values* of intervals of each species of time, expressed in

terms of the other, instead of the *corrections*, respecting the proper application of which, a difficulty is sometimes felt by unpractised computers.

Sidereal time at mean noon is also used in finding the mean time of transit of a heavenly body.

Page III. of each Month.

The *Sun's Longitude*, here given, is affected with aberration, and reckoned from the true equinox: it is therefore the *apparent* longitude of the Sun at the instant of mean noon; or it is (if ρ denote the Radius Vector) the *true* longitude of the Sun at the time $0^h - 495^m 775^s \rho$, because aberration causes the Sun to appear behind its true place in the Ecliptic.

The *Sun's Latitude* is the angular distance of the Sun's centre from the plane of the Ecliptic, measured on a circle perpendicular to that plane.

The *Logarithm of the Radius Vector of the Earth* is the logarithm of the distance between the centre of the Earth and the *apparent* place of the centre of the Sun at mean noon, the mean distance, or the semi-axis major of the orbit, being considered unity.

These quantities are derived *immediately* from the Solar tables, and enter into, indeed are the foundation of, nearly all the subsequent operations in the Ephemeris. Whenever the *true* longitude of the Earth is required, as in calculating the Geocentric position of a Planet or Comet from its Heliocentric position, it is necessary to reduce the *apparent* longitude of the Sun to the *true*, by correcting it for aberration. The Sun's aberration for every tenth day is given at page 266, and may thence be readily obtained for any other day of the year. (See *Sun's Aberration*, page 585.) In strictness, the *Logarithm of the Radius Vector* should also be corrected for aberration, but this is generally neglected, the correction being too small to affect the accuracy of the results in practice.

The Sun's longitude, entering into the expressions for aberration and Solar nutation, is required for the reduction of the Stars' places.

The *Moon's Semidiameter* is the angle under which her Semidiameter would appear if viewed from the centre of the Earth; and her *Horizontal Parallax* is the *greatest* angle under which the Earth's Equatorial Semidiameter would appear if seen from the centre of the Moon. The former is requisite to obtain the position of the centre from an observation of the Moon's *limb*, as in all cases of altitudes or lunar distances. The latter, for computing the horizontal parallax of the Moon at any given latitude on the Earth, *considered as a Spheroid*; also for finding the parallax in altitude, Right Ascension, &c., for the purpose of reducing an observation of the Moon made on the surface of the Earth, to what it would have been if made at the centre.

In reducing observations of the Moon made at sea, the horizontal *equatorial* parallax is generally used for finding the parallax in altitude, without regarding the previous reduction to the Spheroid; but in calculations requiring considerable precision, as in lunar occultations and solar eclipses, this reduction cannot be dispensed with.

Example. To find the Moon's Semidiameter and Horizontal Parallax at 6^h A.M. January 7, 1841, at a place 15°, or 1^h to the east of Greenwich. The civil time at the place, expressed in mean astronomical time, is January 6^d 18^h, from which subtracting 1^h, the place is to the east of Greenwich, we have January 6^d 17^h for the correction. To Greenwich, or 5^h after midnight. Proceeding from the 6th, we must compute the proportional part time elapsed since midnight, viz. 5^h; and for the sake of this proportional part for the

correction of the registered value preceding the given time; thus the semidiameter for midnight, or 12^h , of the 6th, is $16' 43''.7$, and for the 7th at noon, or 24^h , it is $16' 43''.5$; the difference $0''.2$ is the variation in 12 hours. Therefore,

$$12^h : 0''.2 :: 5^h : 0''.1,$$

which, *subtracted* (because the quantities are decreasing) from $16' 43''.7$, gives $16' 43''.6$ for the Moon's Semidiameter at the time proposed. Similarly, the Horizontal Parallax at midnight of the 6th is $61' 23''.1$; and at the noon of the 7th it is $61' 22''.6$; the difference $0''.5$ is the variation in the 12 hours which include the given time; therefore, $12^h : 0''.5 :: 5^h : 0''.21$, or $0''.2$, which *subtracted* (because the quantities are decreasing) from $61' 23''.1$ gives $61' 22''.9$ for the Horizontal Parallax required. If greater accuracy be desired, a further correction must be applied to the values just obtained, on account of second differences, to compensate the error produced by supposing the first differences uniform. But the *greatest* error in the semidiameter which can arise by this supposition in the present instance is not two-tenths of a second; for, select four semidiameters from the Ephemeris, two preceding, and two following the given time, and take the first and second differences, thus:—

January 6,	0 ^h	16' 42'' .4			
	12	16' 43'' .7	+	1'' .3	— 1'' .5
7,	0	16' 43'' .5	—	0'' .2	— 1'' .5
	12	16' 42'' .0	—	1'' .5	— 1'' .5

The mean of the second differences is $1''.4$, and $\frac{1}{3}$ of this, which is the *greatest* effect, is less than $0''.2$.

A similar operation performed on the Parallaxes will show the error, that would arise on the supposition of uniform or equal first differences, to be six-tenths of a second.

Page IV. of each Month.

The *Moon's Longitude and Latitude* at Mean Noon and Midnight indicate the position of the Moon at these respective times, referred to the Ecliptic and the true Equinox, as it would be seen from the centre of the earth. They are the results deduced immediately from the Lunar Tables, and are the foundation of all subsequent calculations in which the Moon is concerned. These quantities are now of little use to the seaman, as the position of the Moon, with respect to the Equator, is given for every hour in the succeeding pages; but the Moon's Longitude is involved in the formulæ for nutation, and is therefore necessary for its determination. In finding the Moon's Longitude and Latitude for any other times than those of Mean Noon and Midnight, it is necessary to apply the equation of second, and sometimes even of third and fourth differences, on account of the irregular variation of her motion.

The *Moon's Age* at Mean Noon is the Mean Time elapsed since the Moon's ecliptic conjunction with the Sun, or since the Sun and Moon had the same Longitude. The numbers in this column represent her age at Greenwich, and are expressed in days, decimal parts of a day.

The *Moon's Meridian Passage*.—This column contains the Greenwich Mean Time to the nearest tenth of a minute, at which the Moon's centre is on the upper Me

of Greenwich, and is useful to indicate when the Latitude may be obtained from an observed meridian altitude of the Moon; also, in conjunction with a Table of Semi-diurnal Arcs, to determine approximately the times of the rising and setting of the Moon: it is likewise useful in finding the time of High Water.

When the symbol (\odot) denoting conjunction occurs, as on January 21, we are to understand that the Moon does *not* pass the *upper* meridian on that day at Greenwich. This is the case once in every lunation, and arises from the circumstance of the Lunar day being greater than the Mean Solar day, and including it within its limits. In the present instance, the excess is $0^h 47^m \cdot 9$, or the lunar day is equal to $24^h 47^m \cdot 9$ Mean Solar time; the Moon passes the meridian on the 20th at $23^h 16^m \cdot 1$, or $43^m \cdot 9$ *previously* to the noon of the 21st, and does not return to the same meridian until $0^h 4^m \cdot 0$ *after* the noon of the 22nd. For the same reason there is also one day in every lunation on which the Moon does not transit the *lower* meridian, and this happens about the time of opposition, or when the difference of longitude of the Sun and Moon is 180° . In the list of Moon-culminating Stars, at pages 480 to 520, the days on which only one transit occurs are readily seen. On June 18th (page 498), for instance, it appears that the Moon transits the *lower* meridian only, while on July 3rd (page 500), the only transit is that at the *upper* meridian.

To find the Mean Time of Transit under any other Meridian, suppose 45° or 3^h west of Greenwich, on January 25, 1841. The Meridian being to the west of Greenwich, the Transit will take place *after* the Greenwich time of Transit on the 25th; therefore take the difference between the Meridian Passages on the 25th and 26th, which is $0^h 41^m \cdot 7$. Then, $24^h : 0^h 41^m \cdot 7 :: 3^h : 5^m \cdot 2$, which *added* to the Greenwich Mean Time of Transit gives $2^h 20^m \cdot 6$ for the Mean Time of Transit at the given Meridian. Had the assumed Meridian been 3^h to the east of Greenwich, the Transit would have taken place *before* the Transit at Greenwich, and the proportional part of the difference between the 24th and 25th, must in this case have been *subtracted*. The times thus deduced are only approximate; but they are sufficiently accurate for the purposes usually required.

Pages V. to XII. of each Month.

The Moon's Right Ascension and Declination for every hour of the day, with the Difference of Declination for 10 minutes. By means of the quantities here given, the Latitude, Time, Azimuth, Moon's rising and setting, &c., may be deduced, with nearly as little labour as is required in the case of the Sun. The numbers represent the position of the Moon, as it would appear from the centre of the Earth, with respect to the Equator and the true Equinox: and they are given for every hour, with the view of rendering any correction for second differences unnecessary, except where extreme precision is required. The Right Ascension for any time is readily obtained by simply adding the proportional part of the hourly variation due to the interval elapsed since the preceding hour. Thus, suppose the Right Ascension of the Moon were required at $8^h 45^m$ mean time of January 8, in longitude 60° , or 4^h east of Greenwich. The given time, $8^h 45^m$, diminished by 4^h , gives the corresponding Greenwich time $4^h 45^m$. The Right Ascension at 4^h is $8^h 22^m 47^s \cdot 06$, and at 5^h it is $8^h 25^m 20^s \cdot 17$; $3^s \cdot 11$, is the increase in the interval, or 60^m . Hence, $60^m : 2^s :: 3^s \cdot 11 : 1^s \cdot 23$, which being added to the Right Ascension at 4^h , gives the Right Ascension at $4^h 45^m$ at Greenwich, or at $8^h 45^m$ mean time. To find the Declination, we make use of the numbers in the column standing under the Right Ascension. The number in this column standing

opposite to any hour is $\frac{1}{2}$ of the difference of the Declinations at that and the following hour. We therefore say, $10^m : 120'' \cdot 37 : : 45^m : 541'' \cdot 7 = 9' 1'' \cdot 7$, which being subtracted (because the Declinations are decreasing) from N. $20^\circ 49' 46'' \cdot 3$, the Declination at 4^h, gives N. $20^\circ 40' 44'' \cdot 6$, for the Declination at the time proposed.

The *Phases of the Moon*. These are given at page XII, to the nearest tenth of a minute. The numbers denote the Greenwich Mean Time, at which the difference of Longitude between the Sun and the Moon is 0° , 90° , 180° , or 270° , being

0° at the New Moon,
 90° at the First Quarter,
 180° at the Full Moon,
 270° at the Last Quarter.

The Moon's *Apogee and Perigee*. The numbers here given indicate, to the nearest hour, the Greenwich Mean Time at which the Moon is respectively at her greatest and least distance from the Earth.

Pages XIII. to XVIII. of each Month.

Lunar Distances.—These pages contain, for every third hour of Greenwich Mean Time, the angular distances between the apparent *centres* of the Moon and certain heavenly bodies, such as they would appear to an observer at the centre of the Earth. When a Lunar Distance has been observed on the surface of the Earth, and reduced to the centre, by clearing it of the effects of parallax and refraction, the numbers in these pages enable us to ascertain the exact Greenwich mean time at which the objects would have the same distance. They are arranged, from *west to east*, commencing each day with the object which is at the greatest distance *westward* of the Moon, in the precise order in which they appear in the heavens; W. indicating that the object is west, and E. east, of the Moon. Thus we have at one view, by a simple reference to the date, all the lunar distances which are available for the determination of the Longitude.

The columns headed "P. L. of Diff." contain the Proportional Logarithms of the Differences of the distances at intervals of three hours, which are used in finding the Greenwich time corresponding to a given distance, according to the following rule, viz.: For the given day, seek in the Ephemeris for the *nearest* distance *preceding*, in order of time, the given distance, and take the difference between it and the given distance; from the proportional logarithm of this difference subtract the proportional logarithm standing opposite to the said *nearest* distance in the Ephemeris; the remainder will be the proportional logarithm of a portion of time to be added to the hour answering to the *nearest* distance, to obtain the approximate Greenwich mean time corresponding to the given distance.

If the distance between the Moon and a Star increased or decreased uniformly, the Greenwich time corresponding to a given distance, as found by the above rule, would be strictly correct; but an inspection of the columns of the Proportional Logarithms in the Ephemeris will show that this is not the case; and as the knowledge of the exact Greenwich time is desirable, a correction must be applied to the time so found for the variation of the differences of the distances. This correction may be obtained by means of the Table at page 554 of the present volume, in the following manner:

1. Find the Approximate interval, by the preceding rule.
2. Take the difference between the proportional logarithms standing opposite to the distances in the Ephemeris which include the given distance.

3. With the approximate interval and this difference, as arguments, take out the correction from the table.

4. If the Proportional Logarithms are *decreasing*, *add* the correction to the approximate time; but if *increasing*, *subtract* it: the result will be the accurate Greenwich mean time.

Example I.—Suppose it were required to find the Greenwich Mean Time, at which the *reduced* distance between the Moon and α Pegasi would be $39^{\circ} 5' 12''$ on January 1, 1841. It appears, by inspecting the distances, that the time must be between XVIII^h and XXI^h: the *nearest* distance *preceding*, in order of time, the given distance is therefore the

Distance at XVIII ^h	- 38° 30' 53"	and P. L.	- - 2920
Reduced Distance	- 39 5 12		
Difference	- - - 0 34 19	- - P. L.	- - 7198
Approximate Interval	- 1 ^h 7 ^m 13 ^s	- - P. L.	- - 4278

The difference between the Proportional Logarithms in the Ephemeris, at XVIII^h and XXI^h, is 52. Opposite to 1^h 7^m (or the quantity nearest to it, 1^h 10^m), and under 52, in the Table, we have for the correction 15', which, *added* to the Approximate Interval, 1^h 7^m 13^s, because the Proportional Logarithms are *decreasing*, gives 1^h 7^m 28^s, for the true interval from XVIII^h: and hence the Greenwich Mean Time is 19^h 7^m 28^s.

We see that, in the preceding Example, the omission of this correction would only produce an error of 3 $\frac{1}{4}$ ' in the Longitude. Cases may however occur, in which it would be greater.

It will sometimes happen, that the difference of the Proportional Logarithms will exceed 138, the limit of the Table of Correction; in this case the Table may be entered with the Approximate Interval, and *one-half or any fraction* of the difference of the Proportional Logarithms and the corresponding correction *increased in like proportion*.

Example II.—Suppose it were required to find the Greenwich Mean Time, at which the *reduced* distance between the Moon and Aldebaran would be $18^{\circ} 29' 16''$ on July 13th, 1841. By inspecting the distances, it appears that the time must be between XVIII^h and XXI^h; therefore take the

Distance at XVIII ^h	- 19° 13' 46"	and P. L.	- - 3143
Reduced Distance	- 18 29 16		
Difference	- - - 0 44 30	- - P. L.	- - 6069
Approximate Interval	- 1 ^h 31 ^m 46 ^s	- - P. L.	- - 2926

The difference between the Proportional Logarithms in the Ephemeris, at XVIII^h and XXI^h, is 150, one-half of which is 75; under this number in the Table, and opposite that nearest the Approximate Interval, is 23 $\frac{1}{2}$ ': the correction is therefore 47' to be *subtracted* from the Approximate Interval, because the Proportional Logarithms are *increasing*; the time at Greenwich is therefore 19^h 30^m 59^s.

The omission of the correction in the preceding example would produce an error of $11\frac{3}{4}'$ in Longitude; it may, however, be considered as an extreme case, and such as will seldom be met with.

The proportional logarithms also serve to point out the Star which is most favourably circumstanced for accurate observation; that Star being to be preferred which has the least Proportional Logarithm opposite to it: for, the greater the velocity of the Moon from or towards a Star, the greater is the reliance to be placed on an observation of the distance; and it is a property of Proportional Logarithms to decrease as their natural numbers increase: a smaller Proportional Logarithm, therefore, indicates a greater velocity of the Moon, or a greater variation of distance in the interval, upon which the value of the observation depends. Thus, on January 11, 1841, between *Noon* and III^h, Antares is the most eligible star, because the Proportional Logarithm, 2366, is less than that of any other; and, by inspecting the columns of Proportional Logarithms, it will appear to deserve the preference until the end of the 13th.

On the 28th day of May, between IX^h and *Midnight*, the following is the order of preference, as indicated by the Proportional Logarithms, viz., Jupiter, Saturn, Antares, Regulus, Pollux, Mars, and SUN.

It is by no means to be inferred from these remarks that observations of any of the distances are to be neglected; on the contrary, every registered star should invariably be observed when an opportunity offers. If, however, on a comparison of results, a considerable difference should be discovered, the Proportional Logarithms will indicate the stars which are least liable to be affected by errors of observation, and therefore deserving of a greater degree of confidence as to the accuracy of the results obtained from them.

Page XIX. of each Month.

Configurations of the Satellites of Jupiter.

In addition to the explanation given at the foot of the page, it may be remarked, that when two Satellites are in or near conjunction, instead of the usual symbol (\odot), it has been thought better to place one above the other, without regard to their actual latitudes, but merely to distinguish them in their relation of *upper* and *lower*.

The Satellites are in the superior parts of their orbits, or have Jupiter between them and the Earth, when they are moving from West to East, or towards the right-hand of the page; but they are in the inferior parts of their orbits, or between the Earth and Jupiter, when they are moving from East to West, or towards the left-hand: in the former case Eclipses and Occultations occur, and in the latter Transits of the Satellites and their Shadows.

If an inverting telescope be directed towards Jupiter on March 11, 1841, at 16^h 45^m Mean Time, the Satellites will appear to an observer at Greenwich in the positions as laid down in the Table. The 1st and 2nd Satellites, which are *really* to the left of the Planet, will appear to the right of it; and the 3rd and 4th, which are *really* to the right, will appear to be to the left.

West and *East*, at the head of the page, are inserted to show the positions of the Satellites with respect to Jupiter, as they would appear in a telescope that does *not* invert. Jupiter being always to the South of the zenith of Greenwich, the Satellites which are here laid down on the left of Jupiter would appear to the *West*, and those on the right-hand to the *East* of the planet.

As regards their positions to the east or west, the page viewed directly, exhibits the Satellites in an inverted order; but if the leaf be turned over, and the page viewed from the other side, they will appear in their real positions. The simplest mode of changing the position of a Satellite from apparent to real, and *vice versâ*, is to draw a line from the Satellite through Jupiter's centre, and to place the Satellite upon this line at the same distance from the centre as before, only on the opposite side. If this operation be performed upon the Configurations as laid down in this volume, the Satellites will be reduced to their real positions.

As the Configurations are given for *Mean Astronomical time*, which agrees with *Civil time* only from 0^h to 12^h, or from noon to midnight, when the time exceeds 12^h the excess will indicate the Civil time of the succeeding day of the month.

Thus in April, 1841, the Configurations are given for 15^h 15^m mean time, but the 15th hour from noon is the same as the 3rd hour from the following midnight, when a new Civil day has commenced. The appearances, therefore, relate to 3^h 15^m A.M. of the day following, according to the common mode of reckoning time; that is, the Configurations at 15^h 15^m on April the 26th relate to 3^h 15^m A.M., on April the 27th.

The Configurations enable an observer to distinguish the Satellites from each other, and from Stars in the vicinity of Jupiter.

Page XX. of each Month.

Eclipses of the Satellites of Jupiter.

On this page are given the Mean and Sidereal Times of the Eclipses of the Satellites, together with diagrams exhibiting the position of each Satellite with respect to the disc of the Planet at the moment of Immersion or Emersion, as it will appear in an inverting telescope. These diagrams have been laid down from calculations made for the eclipse nearest to the middle of each month; but they will serve very well for the whole of the month, *except near opposition*, the change in the position of Jupiter and his Shadow in the interval being too small to be appreciable by the eye, as is evident by comparing the Phases for any two successive months. All the Eclipses which happen when Jupiter is 8° *above* and the Sun 8° *below* the horizon of Greenwich, are marked with an asterisk to indicate that they are visible at that place; and some which are even within these limits have been also marked, as, under favourable circumstances, they may sometimes be observed.

The Immersion (Im.) denotes the instant of the disappearance of the Satellite, by entering into the shadow of Jupiter; and the Emersion (Em.) the instant of its re-appearance at coming out of the shadow. They generally happen when the Satellite is apparently at some distance from the body of Jupiter, except near the opposition of Jupiter to the Sun, when the eclipse takes place near to the body of the planet. Before the opposition, the Immersions and Emersions happen on the Western side, but after opposition on the Eastern side, of the planet: With an inverting telescope, however, the appearances will be directly the contrary. Before the opposition, the Immersions only of the first Satellite are visible; and after the opposition, the Emersions only. It is seldom, also, that the Immersion and Emersion of the second Satellite can be observed at the same eclipse; but both phenomena are generally visible with the third and fourth Satellites. The fourth Satellite does not enter the shadow of Jupiter in 1841, and is therefore omitted.

To find the time at which the Immersion or Emersion of any of the Satellites will take place under any other meridian than that of Greenwich, it is merely necessary to

add the difference of longitude (*in time*) to the time of the phenomenon at Greenwich, if the meridian be *east* of Greenwich, or to *subtract* if it be *west*, and the sum or difference will be the time required. But this determines only the instant of the occurrence of the phenomenon: Jupiter may be below the horizon at this time; or he may be above it, and the intensity of sun-light, or even the brightness of twilight, may be such as to render the Satellites invisible. To have the Eclipses visible, it has generally been considered that the Sun should be at least 8° below the horizon, and Jupiter not less than 8° above it at the same time. Adopting these limits, it is then necessary to ascertain the position of the Sun and Jupiter, with respect to the horizon, at the time of the phenomenon. This may be readily accomplished by means of a celestial globe, or near enough for the purpose, by finding the times of rising and setting of the objects, with the assistance of a table of semidiurnal arcs.

The Eclipses of Jupiter's Satellites, especially of the first, afford us, perhaps, the readiest means of determining the longitude; all that is necessary to be known being the exact time of observation: the difference between this time and the time at Greenwich, shows the difference of longitude at once, and it is *east* or *west* of Greenwich according as the time of observation is *greater* or *less* than the Greenwich time.

Suppose the Immersion of Jupiter's first Satellite to be observed, on January 1, 1841, at Paris at $9^{\text{h}} 25^{\text{m}} 53^{\text{s}}.9$ Mean Time at that place; by reference to page XX, it appears that the Immersion will take place at Greenwich at $9^{\text{h}} 16^{\text{m}} 32^{\text{s}}.4$ Greenwich Mean Time; the difference, $9^{\text{m}} 21^{\text{s}}.5$, is the difference of longitude between Greenwich and Paris; and, because the Paris time is greater than that at Greenwich, we infer that Paris is to the east of Greenwich.

Independent of defects in the tables, there are difficulties attending the observation of these phenomena which unfit them for *accurate* determinations of longitude. Different telescopes give different results; and care should be taken to have recourse to those corresponding observations which have been made under circumstances the most similar, and particularly with telescopes of the same quality and power. When extreme accuracy is not required, the Eclipses of the Satellites will always afford a good approximation towards the difference of meridians, and observations of them should on no account be neglected, especially when the Immersion and Emersion of the same Satellite are both visible.

Page XXI. of each Month.

Approximate Sidereal Times of the Occultations of Jupiter's Satellites by Jupiter, and of the Transits of the Satellites and their Shadows over the Disc of the Planet.

These phenomena are inserted in order to apprise Astronomers when they are about to happen, as observations of them may tend to improve the Tables of the Satellites. The instruments required to observe them with any thing like precision will preclude the possibility of their ever becoming available at sea. The times are given in days, hours, and minutes; the day being supposed to commence at mean noon, and the hours and minutes representing sidereal time, such as will be shown by a sidereal clock on that day.

The Phenomena for each Satellite are arranged under three distinct heads, and each in the order of the days of the month, so that an inspection of the columns opposite to each Satellite is necessary to determine what phenomena will happen on a given day. The fourth Satellite is neither occulted by Jupiter, nor does it appear on the disc of the Planet in 1841; it has therefore been omitted in this page.

Where an asterisk is annexed to the day of the month, it signifies that the pheno-

menon is visible at Greenwich, the limits of visibility being the same as those adopted for the eclipses.

In the month of July, 1841, under the general heading "Occultations," opposite to Satellite I, and under Immersion, the first quantity recorded is $2^{\text{d}} 22^{\text{h}} 12^{\text{m}}$, which signifies that at $22^{\text{h}} 12^{\text{m}}$ sidereal time on July the 2nd an Immersion of the 1st Satellite takes place, but that it is invisible at Greenwich. Under Emersion we find, for the whole of the month, "In the shadow," which signifies that the Emersion of the Satellite cannot be seen, because, although it ceases to be occulted by the body of the Planet, it is still involved in its shadow, from which it does not indeed escape until $1^{\text{h}} 2^{\text{m}} 18^{\text{s}}.0$ sidereal time. (See Eclipses of the Satellites of Jupiter on the preceding page of the month.) Again, in the column of Occultations opposite to Satellite III, it appears that the 3rd Satellite is occulted on the 13th day of the month; that it disappears behind the disc of the Planet at $14^{\text{h}} 25^{\text{m}}$, reappears at $17^{\text{h}} 6^{\text{m}}$, Sidereal time; but that the Emersion only, is visible at Greenwich.

In the column headed Transits of Satellites, the first transit of Satellite I. at Greenwich appears to be on the 1st day, when the Ingress takes place at $0^{\text{h}} 50^{\text{m}}$, and the egress at $3^{\text{h}} 4^{\text{m}}$, Sidereal time; that is, it comes in contact with Jupiter's disc at $0^{\text{h}} 50^{\text{m}}$, remains on the disc $2^{\text{h}} 14^{\text{m}}$, and quits it again at $3^{\text{h}} 4^{\text{m}}$, sidereal time; both ingress and egress are invisible at Greenwich.

The Transits of Shadows are to be interpreted in a similar manner.

Page XXII. of each Month.

1. *Logarithms of A, B, C, D, for correcting the Places of the Fixed Stars.*

In the formulæ which express the relation of the apparent place of a Star to its mean place, and reciprocally, there are certain factors which are independent altogether of the Star's place, and are therefore common to all Stars. These factors depend upon the longitudes of the Sun, Moon, and Moon's ascending Node.

The Logarithms here given are the logarithms of these independent factors, conveniently arranged for incorporation with other terms depending upon each particular Star, according to the method recommended by Professor Bessel. They have been computed for Mean Midnight at Greenwich, according to the formulæ exhibited at page 435, omitting in C and D the terms depending on $2 \odot$.

In the form under which they now appear, they are chiefly used in conjunction with the Astronomical Society's Tables,* which contain the Logarithms of the remaining factors depending on the Star's place; and for the reduction of any Star in that Catalogue, they appear to afford every facility that can be desired.

Where, however, the apparent place of any Star, *not in the Astronomical Society's Catalogue*, is required, similar quantities to those must either be computed with reference to the particular Star, before we can use the A, B, C, D, or recourse must be had to other and independent means; such, for instance, as are afforded by the Table at pages 436 and 437, which serves equally for all Stars. The formulæ by which this Table has been constructed are given at page 435.

The following Examples will sufficiently illustrate the mode of using both Tables.

* "New Tables for facilitating the Computation of Precession, Aberration, and Nutation of 2381 Principal Fixed Stars, together with a Catalogue of the same, reduced to January 1, 1830. Computed at the Expense and under the Direction of the Astronomical Society of London. To which is prefixed an Introduction, explanatory of their Construction and Application. By Francis Baily, Esq." London, 1827. 4to.

Required the Correction ($\Delta \alpha$) of the Right Ascension and ($\Delta \delta$) of the Declination of γ Orionis (No. 648, *Ast. Soc. Cat.*), for Precession, Aberration, and Nutation, at Greenwich Mean Midnight, on February 5, 1841.

1.—By the Astronomical Society's Constants and the Logarithms of A, B, C, D.

Mean α , Jan. 1, 1830	- - - $5^h 16^m 1.00^s$	Mean δ - - - - -	+ $6^\circ 11' 17.10''$
Eleven Years Precession	- + 35.31	Eleven Years Precession	+ 42.05
Mean α , Jan. 1, 1841	- - - <u>5 16 36.31</u>	Mean δ - - - - -	+ <u>6 11 59.15</u>
Logarithms.	Nat. Nos.	Logarithms.	Nat. Nos.
a - - - + 8.1069		a' - - - + 9.5119	
A - - - - 1.1361		A - - - - 1.1361	
aA - - - - 9.2430	- - - - 0.175	$a'A$ - - - - 0.6480	- - - - 4.446
b - - - + 8.8184		b' - - - + 8.3130	
B - - - + 1.1417		B - - - + 1.1417	
bB - - - + 9.9601	- - - + 0.912	$b'B$ - - - + 9.4547	- - - + 0.285
c - - - + 0.5065		c' - - - + 0.5824	
C - - - + 9.5395		C - - - + 9.5395	
cC - - - + 0.0460	- - - + 1.112	$c'C$ - - - + 0.1219	- - - + 1.324
d - - - + 7.1395		d' - - - - 9.9920	
D - - - - 0.8414		D - - - - 0.8414	
dD - - - - 7.9809	- - - - 0.010	$d'D$ - - - + 0.8334	- - - + 6.814
	$\Delta \alpha = + 1.839$		$\Delta \delta = + 3.977$

2.—By the independent Constants.

For February 5, 1841, the Table at pages 436, 437, furnishes

$$f = + 15.94; g = + 9.82; G = 315^\circ 0'; h = + 19.47; H = 315^\circ 22'; i = - 5.94.$$

$$\alpha \text{ (in time) converted} = 79 \ 9 \quad \quad \quad 79 \ 9$$

$$G + \alpha = 34 \ 9$$

$$H + \alpha = 34 \ 31$$

Logarithms.	Nat. Nos.	Logarithms.	Nat. Nos.
f - - - - -	+ 15.94		
g - - - + 0.9921			+ 0.9921
$\sin (G + \alpha)$ + 9.7492		\cos - - - + 9.9178	
$\tan \delta$ - - - + 9.0360			+ 0.9099
	+ 0.60		+ 8.13
h - - - + 1.2894			+ 1.2894
$\sin (H + \alpha)$ + 9.7533		\cos - - - + 9.9159	
$\sec \delta$ - - - + 0.0025		\sin - - - + 9.0334	
	+ 11.10		+ 0.2387
	+ 1.73		
$\Delta \alpha$ (in arc) = + 27.64		i - - - - 0.7738	
$\Delta \alpha$ (in time) = + 1.84		$\cos \delta$ - - - + 9.9975	
			- 0.7713
			- 5.91
			$\Delta \delta = + 3.95$

$$\text{Hence the App. Right Ascens. of } \gamma \text{ Orionis} = 5^h 16^m 36.31^s + 1.84 = 5^h 16^m 38.15^s$$

$$\text{And the Apparent Declination} = + 6^\circ 11' 59.15'' + 3.95 = + 6^\circ 12' 3.10''$$

2. *Mean Time of Transit of the First Point of Aries.*

The time in this column shows the distance of the *mean* Sun from the meridian, at the instant when the *true* point of intersection of the ecliptic and equator (called the first point of Aries) is on the meridian of Greenwich; and as the distance of the first point of Aries from the meridian, at the instant the mean Sun is on the meridian, is denominated Sidereal Time at Mean Noon, this may, by analogy, be termed the *Mean Time at Sidereal Noon*. It is the time which ought to be shown by a mean time clock adjusted to the Greenwich meridian, at the moment that a clock, adjusted to sidereal time, indicates exactly $0^h 0^m 0^s$. The use of this column is to facilitate the reduction of sidereal to mean solar time, with the help of the Table of Time Equivalents, given at pages 560 and 561, of this volume, as has been already explained at page 572.

3. *Mean Equinoctial Time.*

Mean Equinoctial Time signifies the Mean Time elapsed since the instant of the Mean Vernal Equinox. The numbers in this column represent this time, at every Mean Noon, in Mean Solar days and fractional parts of a day; it is reckoned from the Mean Vernal Equinox of 1840, between January 1^d and March 22^d·190474, but after March 22^d·190474 from the Vernal Equinox of 1841; for the Equinoctial Year has been assumed, according to Bessel, (*Conn. des Tems*, 1831, Additions, page 154) equal to 365·242217 Mean Solar days; and as the Equinoctial Time corresponding to the Mean Noon of March 22, 1841, is 365^d·051743, it is evident that the Equinoctial Year of 1840-41 was completed, and that a new year commenced, at 0^d·190474 after Mean Noon of the 22nd.

The fraction of the day at the head of the column is common to all the days of the Equinoctial Year. Thus, at Mean Noon of January 19, 1841, the Equinoctial Time is 303^d·051743, and on January 20 it is 304^d·051743, and so on until March 22^d·190474, when the year terminates, and the fractional part of the day changes. At Mean Noon of March 23, 1841, the Equinoctial Time is 0^d·809526, and this fraction is to be annexed to all the numbers in the column of days, from the period of the change until the equinox of 1842.

At the instant the Mean Sun arrives at the Mean Vernal Equinox, it must also be on *some* meridian, and this meridian will then have its Equinoctial time corresponding with its Mean Solar time, each of which will be $0^h 0^m 0^s$, and they will continue to correspond throughout the Equinoctial Year. At the end of the Equinoctial Year, the Sun will have passed this meridian 365 times, and have performed, besides, a certain portion of its 366th diurnal revolution, viz. 0^d·242217; it will, therefore, have arrived at some other meridian, which will now, in its turn, reckon the Mean Equinoctial and Mean Solar time from the same point, and remain constant for the year. Thus the meridian, from which the time is reckoned, is shifting its position at the end of every year by 0^d·242217, or 5^h 48^m 47^s·55, to the Westward. Between the Vernal Equinoxes of 1841 and 1842, this itinerant meridian corresponds to Longitude 0^d·809526 East or 4^h 34^m 16^s·95 West of Greenwich.

This species of time was first introduced in the Supplement to the Nautical Almanac for 1828, with a very full explanation of its nature and use. It there appears, that the use of *Time* is to afford an uniform date, which shall be independent of the *and* of all inequalities in the Sun's motion, and shall thus save tl *of the time of any event's happening, of mentioning*

at the same time the place where it was observed or computed. Thus, it is the same thing to say that a comet passed its perihelion on January 5, 1841, at $5^h 47^m 0^s.0$, Mean Time at Greenwich; at $5^h 56^m 21^s.5$, Mean Time at Paris; or at $1840^r 289^d 7^h 1^m 30^s.60$ Equinoctial Time; but the former dates make the localities of Greenwich and Paris enter as elements of the expression; whereas the latter expresses the period elapsed since an epoch common to all the world, and identifiable independently of all localities. By this means all ambiguities in the reckoning of time are supposed to be avoided.

To convert Mean Solar into Equinoctial Time: To the corresponding Greenwich Mean Time add the Equinoctial Time at Mean Noon of the same day at Greenwich: the sum will be the Equinoctial Time required. Thus, in the instance of the comet before alluded to, Paris being $9^m 21^s.5$ East of Greenwich, subtract this from the Paris time and we get $5^h 47^m 0^s.0$ for the corresponding Greenwich Time, to which add $289^d.051743$, or $289^d 1^h 14^m 30^s.60$, the Mean Equinoctial Time at Greenwich Mean Noon of January 5, and the sum will represent the Mean Equinoctial Time of the Comet's passage of its perihelion, viz. $289^d 7^h 1^m 30^s.60$, from the vernal equinox of the year 1840.

4. Day of the Year.

The numbers in this column indicate the complete days at mean noon which have elapsed since mean noon of January 1. Mean noon of January 1 is therefore reckoned 0, and 1 is found opposite to that of January 2, because at that instant one entire day has elapsed.

5. Fraction of the Year.

These fractions are the quotients found by dividing the numbers in the preceding column by 365.25 . The day and fraction of the year are useful in many Astronomical calculations.

Obliquity of the Ecliptic. (Page 266.)

The apparent inclination of the plane of the Ecliptic to that of the Equator is here given for every 10th day of the year, and continued to January 6 of the following year, marked December 37 for the sake of convenience. This inclination is ever varying, as well from the effect of its mean diminution, as of the nutation of the earth's axis: it is an important element in deducing the positions of the heavenly bodies, with reference to either of the planes, when we know their positions with respect to the other; as, for instance, in computing Right Ascensions and Declinations from Longitudes and Latitudes, and *vice versâ*. If the apparent Obliquity be required for any date not to be found in the Table, it may be obtained by simply taking the proportional part of the variation of the obliquity corresponding to the interval which comprises the given date. Thus, the apparent Obliquity on August 23, 1841, is $23^\circ 27' 41''.74$. For the variation of the Obliquity in the ten days between August the 19th and the 29th, is $0''.07$, or $0''.007$ for one day, and this being multiplied by 4, the number of days between the 19th and the 23rd, gives $0''.03$, to be added to the Obliquity of August the 19th. For most purposes,

however, the Obliquity corresponding to the date in the Table nearest to the given date is sufficient, as is evident from an inspection of the quantities.

Sun's Horizontal Parallax. (Page 266.)

The Sun's Horizontal Parallax is the *greatest* angle under which the equatorial semidiameter of the earth would appear at the Sun's centre. It varies inversely as the distance, and the numbers in this column show the values for every tenth day of the year.

The Parallax serves for reducing a Solar observation made at the surface of the earth to what it would have been if made at the centre.

Sun's Aberration. (Page 266.)

The progressive motion of light, combined with the motion of the Earth in its orbit, causes the Sun to appear in a different position from that which he really occupies, the true position being always in advance of the apparent. The numbers in this column indicate, for every 10th day of the year, the amount of Aberration, or the quantity to be applied to the *true* longitude of the Sun to obtain the *apparent* longitude. The longitudes derived from the Solar Tables include Aberration, and are therefore *apparent* longitudes, such as are contained in this Ephemeris. If the *true* longitude of the Sun be wanted, as is the case in finding the longitude of the Earth for the calculation of the Geocentric place of a body, the aberration must be applied with a contrary sign. Thus, on June 10, 1841, at Mean Noon, by *adding* $20''.05$, the amount of aberration, to $79^{\circ} 21' 23''.0$, the apparent longitude of the Sun, we obtain $79^{\circ} 21' 43''.05$ for the true longitude.

Equation of the Equinoxes. (Page 266.)

The Solar and Planetary Tables furnish us with the places of the Heavenly Bodies referred to the Mean Equinox; but the true place of the Equinox at any time differs from its mean place, by a quantity which is termed the Equation of the Equinoxes; and the numbers here given show the value of the Equation for every 10th day of the year. They are to be applied, with their proper signs, to the Longitudes reckoned from the Mean Equinox, to obtain the values with respect to the True Equinox.

If the Longitude of a body be given with reference to the true Equinox, as in this Ephemeris, and it be required to find its Longitude reckoned from the Mean Equinox, the Equation of the Equinoxes must be applied with a contrary sign. Thus, the longitude of the Sun, reckoned from the true Equinox, on July 20, 1841, at Mean Noon, is $117^{\circ} 30' 46''.2$, and the Equation of the Equinoxes is $+ 14''.15$; therefore, applying it with the contrary sign, the difference $117^{\circ} 30' 34''.05$ is the Sun's Longitude from the *Mean* Equinox on that day.

The Equation corresponding to any date not contained in the Table, may be obtained in the usual way by interpolation.

The Equation of the Equinoxes in Right Ascension, in a similar manner, enables us to find the *apparent* point of intersection of the Ecliptic on the Equator; and is necessary in computing Sidereal Time.

Mean Longitude of \mathcal{C} 's ascending Node. (Page 266.)

This column contains the Mean Longitude of the Moon's ascending Node, at Mean Noon of every 10th day of the year, reckoned from the Mean Equinox. The place for any intermediate day is easily found from the daily motion inserted at the foot of the column. The Longitude of the Node is necessary in the calculation of Nutation; it is also sometimes used to determine roughly the Stars which are likely to undergo occultation by the Moon.

Ephemeris of the Planets. (Pages 267 to 431.)

These pages contain the Geocentric and Heliocentric Places of the Planets, Mercury, Venus, Mars, Vesta, Juno, Pallas, Ceres, Jupiter, Saturn, and the Georgian.

The Geocentric Places are the places of the centres of the planets, as they would appear from the centre of the Earth; the Heliocentric, such as they would appear from the centre of the Sun.

The positions of the larger planets are given for Greenwich Mean Noon and the Time of Transit on every day of the year. But those of the minor Planets are given at Noon of every fourth day only, and, for the month preceding and following their Oppositions, at Time of Transit on each day. The Geocentric Right Ascensions and Heliocentric Longitudes, are reckoned from the True Equinox. The Geocentric Right Ascensions and Declinations are affected with aberration, and are therefore *apparent* positions.

By means of the positions of Venus, Mars, Jupiter, and Saturn, and particularly of Venus and Jupiter, which are frequently visible when the Sun is above the horizon, the Latitude, Time, and Variation of the Compass, may be found with nearly as much facility and accuracy as by the Sun.

The column headed "Meridian Passage" shows the Mean Time of the Planet's Transit over the meridian of Greenwich, and serves to find the Mean Time of Transit over any other meridian. As in the instance of the Moon before noticed, there are some days on which the planets do not pass the meridian; these are indicated by two asterisks (* *). If we refer to page 276, we shall find that Mercury does not pass over the Greenwich meridian on May 26th, and for a similar reason, viz., that the planetary day is here longer than the mean solar day, and commences so near, but previously, to the noon of the 26th, viz. $3^m.1$, as to want still $2^m.2$ of its completion at the termination of the 26th day. The planetary day, therefore, includes the solar day of May 26th: it begins *before* the solar day and ends *after* it, and the planet cannot arrive at the meridian at any period of it.

Another phenomenon takes place in the case of the planets, which, however, does not occur with the Moon; it is that of two transits on the same day, which arises from the planetary day being sometimes *shorter* than the solar day, commencing *after* and terminating *before* the solar day, and thus falling entirely within it. This cannot be the case with the Moon, because the lunar day is always greater than the solar day. When two transits occur, the times of both are registered, as at page 280, July 27th, where it appears that Mercury passes the Greenwich meridian $4^m.3$ after Mean Noon of the 7th, and again at $23^h 57^m.6$ on the same day, or $2^m.4$ before the arrival of the following Mean Noon.

The positions of the planets for any time not given in the Ephemeris, and under any other meridian than that of Greenwich, are to be found by interpolation in the usual way. *Example:* Required the Right Ascension and Declination of Venus at 6^h Mean Time on June 15, 1841, in longitude 30° west of Greenwich; also the time of Venus' passage over this meridian on the same day. The difference of longitude 2^h added (because it is west) to the given time, gives 8^h for the corresponding Greenwich time.

1. *For the Right Ascension.* The Right Ascension on June 15 is 3^h 3^m 43^s.30, and on June 16 it is 3^h 5^m 15^s.60; the difference 1^m 32^s.30 is the variation of the Right Ascension in 24 mean hours; therefore, 24^h : 1^m 32^s.30 :: 8^h : 30^s.77, the proportional part of the variation answering to 8^h; and this proportional part added (because the Right Ascensions are increasing) to 3^h 3^m 43^s.30, the Right Ascension at mean noon on June 15, gives 3^h 4^m 14^s.07 for the Right Ascension required.

2. *For the Declination.* The Declination on June 15 is N. 14° 19' 58^{''}.8, and on the 16th it is N. 14° 20' 27^{''}.0, the difference, 0' 28^{''}.2, is the variation in 24 hours; and the proportional part of this variation for 8^h is 9^{''}.4, which, added to the Declination at noon on the 15th, gives N. 14° 20' 8^{''}.2 for the Declination required.

3. *For the Meridian Passage.* Take the difference of the times of two consecutive transits; and considering this difference as an acceleration or retardation of the Meridian Passage while the planet has passed over 24^h of geographical longitude, take the proportional part of it, due to the difference of meridians, for a correction to be applied to the Meridian Passage at Greenwich, bearing in mind that in east longitudes the passage precedes that at Greenwich, when times are accelerated, and follows it, when they are retarded; and the contrary in west longitudes. In the present case Venus passes the meridian of Greenwich on June 15 at 21^h 27^m.2, and on June 16 at 21^h 24^m.9; the difference is 2^m.3, therefore 24^h : 2^m.3 :: 2^h : 0^m.2, the proportional part to be subtracted from 21^h 27^m.2, (because the passages are retarded, and the longitude is west of Greenwich,) which gives 21^h 27^m.0, mean time at the given place, for the Meridian Passage. Where great accuracy is not required, as in predicting the time of passage, in order to be prepared for observing the altitude of the planet on the meridian, for the determination of the latitude, this method will suffice.

The Right Ascension and Declination at Transit over the Meridian at Greenwich, are readily reduced to the time of transit over any other meridian not far distant, by means of their Variations in 1 hour of Longitude. Thus: prefix the sign — to the Longitude of the proposed meridian if it be east of Greenwich, but + if it be west, and multiply it by the variation; the product applied *algebraically* (South Declination being considered as negative) to the transit results for Greenwich, will give those for the proposed meridian. *Example:* Suppose the Right Ascension and Declination of Mars were required at Vienna on January 23rd, 1841. Vienna is east of Greenwich 1^h 5^m 31^s.9, or — 1^h.092, and the "Variation of Right Ascension in 1 hour of Longitude" on January 23rd is + 3^s.66: the product of these numbers is — 4^s.00, which, applied to 13^h 38^m 26^s.50 for the Transit Right Ascension at Greenwich, gives 13^h 38^m 26^s.50 for the Transit Right Ascension at Vienna. The Variation of the Declination on January 23rd is — 19^{''}.9, and — 1^h.092 is + 21^{''}.7, which, applied to S. or — 7° 54' 1^{''}.8 for the Declination at Greenwich, gives S. or — 7° 54' 1^{''}.8 for the Declination at Vienna.

The "Sid. Time c

for an observation of the Right

Ascension of the limb, to that of the centre, and the "Semidiameter" answers a similar purpose for the Declination.

The "Hor. Par.," or Horizontal Parallax, serves for reducing an observation made at the surface to the centre of the Earth.

Fixed Stars. (Pages 432 to 479.)

In pages 432 to 434 are given the mean Right Ascensions and Declinations of 100 principal fixed Stars for Jan. 1, 1841, together with their Annual Variations.

The *standard* Stars are distinguished by capital letters; North Declination by N., and South Declination by S.

The sign + prefixed to an Annual Variation of Right Ascension indicates that the variation is to be *added to*, and the sign —, that it is to be *subtracted from*, the Right Ascension: also, for Stars having *North* Declination, + signifies *add*, and — *subtract*: but for Stars of *South* Declination, + denotes that the Variation is to be *subtracted from*, and — that it is to be *added to*, the Declination.

Example 1. Required the Mean Right Ascension and Declination of α TAURI or *Aldebaran* on May 31, 1841. The Annual Variation of the Right Ascension is + $3^{\circ}42'69''$; the Fraction of the year corresponding to May 31, is $\cdot411$ (page XXII. of May); the product of these numbers ($1^{\circ}408''$) is the proportional part of the annual variation due to the period elapsed since January 1, which *added*, because the sign is +, to the Mean Right Ascension on Jan. 1, *viz.*, $4^{\text{h}} 26^{\text{m}} 48^{\text{s}}\cdot198$, gives $4^{\text{h}} 26^{\text{m}} 49^{\text{s}}\cdot606$, for the Mean Right Ascension on May 31. The Annual Variation of the Declination is + $7^{\circ}9'30''$, which multiplied by $\cdot411$ as before, and the product ($3^{\circ}26''$) *added*, because the sign is + and the Declination *North*, to the Mean Declination on Jan. 1, 1841, *viz.* N. $16^{\circ} 11' 1^{\circ}92''$, gives N. $16^{\circ} 11' 5^{\circ}18''$, for the Mean Declination required.

Example 2. Required the Mean Right Ascension and Declination of β URSÆ MINORIS on June 2, 1841. Here the Annual Variation of Right Ascension is — $0^{\circ}2'745''$, and the fraction of the Year $\cdot416$ (page XXII. of June); the product ($0^{\circ}114''$) therefore being *subtracted*, because the sign of the Annual Variation is —, from $14^{\text{h}} 51^{\text{m}} 14^{\text{s}}\cdot681$, the Right Ascension on Jan. 1, gives $14^{\text{h}} 51^{\text{m}} 14^{\text{s}}\cdot567$, for the Right Ascension on June 2, 1841.

For the Declination, we have the Annual Variation = — $14^{\circ}7'13''$, which, multiplied by $\cdot416$, gives $6^{\circ}12''$. The Declination being *North*, and the sign of the Variation —, this product must be *subtracted* from N. $74^{\circ} 48' 18^{\circ}57''$, and the result is N. $74^{\circ} 48' 12^{\circ}45''$.

Example 3. Required the Mean Declination of α SCORPII or *Antares* on May 31, 1841. The Annual Variation is — $8^{\circ}5'500''$, and the fraction of the Year $\cdot411$; the product of these numbers ($3^{\circ}49''$) being *added*, because the Declination is *South*, and the sign of the Variation —, to the Declination on Jan. 1, *viz.* S. $26^{\circ} 4' 21^{\circ}62''$, the sum, S. $26^{\circ} 4' 25^{\circ}11''$ is the Declination on May 31, 1841.

Next (page 435) follow Bessel's Formulæ of Reduction; and (pages 436 and 437) a Table for the Reduction of Stars, independently of the Astronomical Society's Constants, an example of which is given at page 582.

The apparent places of α and δ URSÆ MINORIS are given for every day of the year, and those of the remaining 98 Stars for every *tenth* day. They indicate the

position which ought to be shown by perfect instruments at the time of the Star's transit over the meridian of Greenwich; and, therefore, supposing the catalogue of mean places to be correct, they serve to detect any errors of the instruments.

The hours and minutes of Right Ascension, and the degrees and minutes of Declination, are placed at the heads of the columns as constants, and belong equally to all the numbers below them. This arrangement has rendered it necessary, in numerous instances, to continue the seconds beyond 60, as the width of the page would not permit of otherwise indicating any change in the minutes. Thus, the apparent Right Ascension of ϵ Cephei, at page 452, on December 17, 1841, is registered $6^h 23^m 123^s.15$, and is to be read $6^h 25^m 3^s.15$. Again, the Declination of α CORONÆ BOREALIS (page 463), on July 20, is registered N. $27^\circ 14' 70''.0$, which signifies N. $27^\circ 15' 10''.0$.

The small figures on the right hand of the vertical columns of seconds represent the differences of the quantities above and below them on the left, or the variation of Right Ascension and Declination in 10 days, and serve to find, by interpolation, the values for any intermediate day. As in the case of the Planets before explained, a Star will sometimes arrive at the meridian twice in one Mean Solar day. Wherever this occurs, an asterisk is placed opposite to the interval, and it signifies that the Star has passed the meridian 11 times in the 10 Mean Solar days, and consequently that the Right Ascension or Declination on any intermediate day is to be determined in these particular instances by taking $\frac{1}{11}$ th part, instead of $\frac{1}{10}$ th, for the daily variation in the interval. Thus, at page 450, we find in the instance of ϵ ORIONIS, an asterisk opposite the interval between June 10 and 20, and a difference of $0^s.13$ opposite to the interval between the seconds belonging to those dates; we therefore infer that 11 transits have taken place, and that the daily variation of the Right Ascension is $0^s.012$.

When extreme accuracy is required, the apparent places of the 5 Polar Stars demand a further correction, depending on the terms which involve 2ϵ . The apparent places do not include these corrections, on account of the rapid variation of the argument, viz. about 26° in a day, but they are given in a Table at pages 478, 479, for every degree of the Moon's Longitude, and may be readily applied, agreeably to the precept at the foot of that Table.

Formulae for correcting for daily aberration are given in the Preface.

Moon-Culminating Stars. (Pages 480 to 520.)

Those Stars are denominated Moon-Culminating Stars, which being near the Moon's parallel of Declination, and not differing much from her in Right Ascension, are proper to be observed with the Moon, in order to determine differences of meridians. This is effected by comparing the differences of the observed Right Ascensions of such a Star and the Moon's bright limb at any two meridians. If the Moon had no motion, the difference of her Right Ascension from that of the Star would be constant at all meridians; but in the interval of her transit over two different meridians, her Right Ascension will have varied, and the difference between the two compared differences will exhibit the amount of this variation, which added to the difference of the meridians shows the angle through which the westerly meridian must revolve before it comes up with the Moon; hence, and knowing the rate of her increase in Right Ascension, the difference of longitude may be easily obtained.

For the determination of this variation, recourse has hitherto been had to actual observations made at different places, and any errors in the computed places

of the Moon and Stars are thereby avoided; and the places were formerly given merely with the view of indicating the times when the observations were to be made. In the present List, however, the Right Ascensions are given with every possible degree of accuracy, so that they may be considered, at least approximately, in the light of corresponding observations made at Greenwich, and be taken to represent the indications of the Greenwich instruments, the same as though they had been actually observed. The traveller has thus an opportunity of rendering his observations immediately available for determining his longitude with considerable accuracy.

The *Right Ascension of the Moon's bright limb* and *Declination of her centre*, at the instant of their respective transits at Greenwich, are given for the lower as well as the upper Culmination, *i.* being put to denote the Lower Culmination, and *o.* the Upper Culmination; the Roman numerals indicate the limb of the Moon with reference to its transit over the meridian. The Moon's age at the time of her upper transit, to the nearest tenth of a day, is inserted in the column containing the Magnitudes of the Stars.

The numbers in the column "*Var. of ζ 's R. A. in 1 hour of Long.*" represent the Variation in Right Ascension of the Moon's Limb during the interval of her transit over two meridians, equidistant from that of Greenwich, and *one* hour distant from each other. They have been deduced from the Right Ascensions of the *bright limb*, and therefore include the effect produced by the change of the semidiameter. They serve to determine the Longitude where the difference of meridians is not very great; but where this difference is considerable, and extreme accuracy is wanted, that variation in Right Ascension should be used which corresponds to the middle of the interval between the observations, which may be readily obtained by interpolation. They also serve to determine the Right Ascension of the bright limb at its transit over any other meridian. Thus: Multiply the difference of longitude between Greenwich and the given meridian, by the variation; and, according as the given meridian is east or west of Greenwich, subtract or add the product to the Right Ascension at Greenwich; the result will be the Right Ascension of the bright limb at transit over the proposed meridian. *Example:* On May 6, 1841, the Right Ascension of the Moon's second limb is $16^{\text{h}} 1^{\text{m}} 45^{\text{s}}.93$, at its upper transit at Greenwich, and the variation for one hour of longitude is $140''.07$: Required the Right Ascension of the limb at its upper transit at Paris. Paris is $9^{\text{m}} 21''.5$, or $0^{\text{h}} 156$, East of Greenwich; therefore, multiplying $140''.07$ by 0.156 , and subtracting the product $21''.85$ from $16^{\text{h}} 1^{\text{m}} 45^{\text{s}}.93$, we have $16^{\text{h}} 1^{\text{m}} 24^{\text{s}}.08$, for the Right Ascension at Paris.

In a similar manner the Declination may be determined at transit over any other Meridian not far distant from that of Greenwich, bearing in mind that South Declinations and East Longitudes are to be considered as *negative*. Thus, in the above *Example:* The Moon's Declination at her upper Transit at Greenwich is $S. 25^{\circ} 25' 33''.4$, and the "*Var. of ζ 's Dec. in 1 hour of Long.*" — $326''.0$, which, multiplied by $-0^{\text{h}} 156$, gives $+ 50''.9$, to be added to *S.* or $- 25^{\circ} 25' 33''.4$; the Declination at the upper transit at Paris is therefore $S. 25^{\circ} 24' 42''.5$.

Where an asterisk is placed opposite to a Star's name, it is intended to denote that the Star is favourably situated for observing its Declination along with that of the Moon in both hemispheres, with a view to the accurate determination of the Moon's Parallax.

The numbers in the column entitled "*Sid. Time of ζ 's Sem. pass. mer.*," express the Sidereal intervals which the Moon's Semidiameter, at the time of transit at

Greenwich, takes in passing the meridian, and therefore serve to determine the Transit of the centre from an observed Transit of either limb.

Occultations. (Pages 521 to 523.)

These pages contain a list of the Planets and Fixed Stars to the sixth magnitude inclusive, the Occultations of which by the Moon will happen when the objects are above the horizon of Greenwich, together with the Sidereal and Mean Times of the Immersions and Emersions, and the points on the circumference of the Moon's image, where the Star, viewed with a telescope that inverts, will disappear and reappear. By "Angle from N. Point" is to be understood the arc included between the Star, when in contact, and the point of intersection of the limb with a circle passing through the North Pole and the centre of the Moon's image; and by "Angle from Vertex," the arc between the Star at contact and the point where a circle, passing through the zenith and the Moon's centre, intersects the limb; the angles in all cases being reckoned towards the right hand round the circumference of the Moon's image, as seen in an inverting telescope. These latter angles will be found very useful in observing Occultations of small stars with a telescope not mounted equatorially; and, for the observation of an Emersion, a knowledge of the angle is absolutely necessary to enable the observer to direct his attention to the point of the Moon's limb where the Star will reappear. In some instances, Occultations have been inserted which taking place in, or near to, the horizon of Greenwich, are not visible there, but may be visible at places not far distant from Greenwich.

Elements for facilitating the Computation of Occultations of certain Stars by the Moon. (Pages 524 to 534.)

These pages contain, 1. The *Apparent* places, at Greenwich Mean Midnight, of the Fixed Stars to the sixth magnitude inclusive, the occultations of which will take place above the horizon at Greenwich.

2. The *Apparent* Places of those Planets and *all* Stars to the fifth magnitude inclusive, the occultations of which will be visible at *some* part of the Earth.

3. The Greenwich Mean Time at which the Moon would, if viewed from the centre of the Earth, appear to have the same Right Ascension as the Star.

4. The difference of Declination and Position of the Moon, as it would appear with respect to the Star at the instant of Conjunction in Right Ascension.

5. The Parallels of Latitude *beyond* which the Star cannot be occulted by the Moon.

These Elements are useful in the calculation of an Occultation, for being referable to the Moon and Star, as seen from the centre of the Earth, they are independent of geographical position, and serve equally for all places. It is only necessary to apply the difference of longitude from Greenwich to the Greenwich Mean Time of conjunction, to find the time of conjunction at any other meridian; and it is this time to which the positions of the Moon and Star here given will equally correspond.

Thus, the position of the Moon and α Geminorum, on March 3, 1841, at $5^h 42^m 25^s$, Mean Time at Greenwich, is the position at $5^h 51^m 46^s.5$ Mean Time at Paris, because Paris is $9^m 21^s.5$ east of Greenwich.

By Limiting Parallels are to be understood those parallels of latitude beyond which an occultation cannot *possibly* occur.

Suppose an observer situate at a star, and having the Moon between him and the Earth, and that he could ~~be~~ ^{be} projected on the Earth's disc; he would observe

it moving across the disc from west to east, covering a zone whose breadth would be equal to the apparent diameter of the Moon. Now, it is only within the limits of this zone that the Occultation of a Star by the Moon can take place. To all the places through which the boundary lines pass, the Star will appear just to touch the Moon's limb; and that projected parallel of latitude, to which one of the boundary lines is a tangent, is one of the limiting parallels, while the intersection of the other boundary line with the circumference of the Earth's disc determines the other limiting parallel.

Limiting Parallels are useful to indicate whether at a given conjunction of a Star with the Moon, the positions are likely to produce an occultation in a given latitude, and thus to save considerable labour to the computer.

Thus, suppose from the times of conjunction in the month of March, at page 526 it were required to prepare a list of Occultations for Greenwich, whose latitude is $51^{\circ} 28' 39''$ N. On looking down the column of Limiting Parallels we reject at once the first three stars, because the Limiting Parallels do not comprise the parallel of Greenwich. On March 15, we see that ϕ Sagittarii may be occulted to all the parallels of latitude between 64° N. and 4° S., which include that of Greenwich; this Star would therefore be fixed upon for calculation, the time of conjunction, as regards sun-light, being favourable. We observe, however, on reference to page 521, that a near approach, only, of this star is visible at Greenwich, and the same remark will apply to h^1 Sagittarii on March 16. The next Limiting Parallels having Greenwich between them, are 65° N. and 10° N., opposite to h^2 Sagittarii, on March 16. The time of conjunction in this instance, as regards sun-light, is again favourable: if, therefore, on further inquiry, the Star be found to be above the horizon of Greenwich, we should commence the calculation. It will appear on reference to page 521, that the occultation of this star is visible at Greenwich. On March 26, VENUS may be occulted between the parallels of 90° N. and 9° N.; and on reference to page 521, we see that the phenomenon is visible at Greenwich.

Phenomena. (Pages 535 to 543.)

Pages 535 to 538 contain all the particulars necessary for indicating the times, places, &c., on the Earth where the Eclipses of the Sun and Moon will be visible; also the Elements which have been used in the calculations.

On pages 539 to 543 are given the conjunctions in Right Ascension of the Planets with the Moon, with each other, and with certain Stars; also the times when the Planets are in those parts of their orbits most favourable for observation, with a view to the more accurate determination of their elements; and other notices, chiefly of use to the astronomer.

Saturn's Ring. (Page 543.)

On this page are given the quantities which enable us to determine the position of the Ring of Saturn, at intervals of 40 days throughout the year, and whether it be visible or not. The value of p shows the position of the minor axis of the Ring with respect to a circle of declination, those of a and b the Ring's apparent magnitude, and a comparison of those of l and l' its visibility or otherwise. For the plane of the Ring to be *visible*, it is necessary that the Sun and the Earth should be elevated on the same side of it, which is the case during the whole of 1841. The circumstances which determine the *invisibility* of the Ring are, 1st, when its plane passes through

the centre of the Sun, or $l' = 0$; 2nd, when it passes through the centre of the Earth, or $l = 0$, and at this time b also $= 0$; 3rd, when the Sun and Earth are on different sides of the plane of the Ring, for the Earth in this case will have the unilluminated side of the Ring turned towards it.

Phases. (Page 544.)

This page contains two Tables, the first showing the *Mean Time of the greatest Libration of the Moon's Apparent Disc*; and the second, the *Illuminated portion of the Discs of Venus and Mars* at the middle of each month.

Opposition of Mars. (Pages 545 to 549.)

These pages contain an Ephemeris of Stars proper to be observed with Mars about the time of the opposition in 1841, with a view to the determination of the parallax of that planet from corresponding observations of the differences of declination between the planet and stars made at places differing considerably in latitude, such as the observatories in the northern and southern hemispheres.

The stars are selected in such manner that there may be always sufficient intervals of time between their transits and those of the planet to enable the observer to read off the divisions of the Circle or Micrometer; except in some cases, when two objects, having nearly the same declination, will pass through the field, the telescope remaining fixed, and when their difference of declination may be obtained by means of a micrometer.

The apparent Geocentric position of Mars at his transit at Greenwich, will be found at pages 316 to 339.

When both limbs of Mars cannot be conveniently observed on the same day, the northern limb should be observed on the *odd* days, and the southern limb on the *even* days of the month.

α VIRGINIS should, when possible, be observed on every night when the planet is observed.

Those Astronomers who are possessed of good equatorial instruments may take repeated measures of the differences of declination between the selected stars and the planet on the same night, noting the times at which the observations are made.

The mean places of the stars have been taken from the following authorities:

λ , κ , ι , 82 and θ Virginis from Pond's Catalogue of 1112 Stars.

2 Libræ, 94, 96, and 76 Virginis from the Astronomical Society's Catalogue.

The Stars marked as follows from Bessel's Zone Observations; (k) and (o), from Zone 241; (a), (b), (c), (d), (e), (f), (g), and (h), from Zone 243; (l), and (p), from Zone 244; (i), (m), (n), (q), and (r), from Zones 241 and 244; and (s), and (t), from Zones 239, 241, and 244.

Tides. (Pages 550 to 553.)

The Mean Times of High Water at London Bridge are here given for every day of the year, on the assumption that the time of high water on full and change days, or the *Establishment of* " 7^m. The first high tide which happens

after Mean Noon of any day is inserted in the 1st column, and the second in the 2nd column. Where a line (—) is inserted, it indicates that there is only *one* high tide on that day. Thus on January 5 there is only one high tide: it occurs at 12^h 11^m, but the succeeding high tide does not take place until 45^m after mean noon of January 6.

The times of high water at full and change of the Moon, as given at pages 552 and 553, are reckoned from *Apparent Noon*: They represent the *Establishments of the Ports*, that is, the *actual times of High Water when the Moon passes the meridian at the same time as the Sun*; or the *intervals* between the times of Transit of the Moon and the times of High Water on full and change days. They serve to determine the time of high water on any other day at those places in the usual manner. The time of high water, however, at any of the places contained in this table, may be deduced for every day from the time of high water at London Bridge, by taking the difference between the *establishment of the port* at each of these places, and the *establishment of the port* at London Bridge, viz. 2^h 7^m, and considering this as a constant quantity, representing the difference of the tides between London Bridge and the place, to be *added* to, or *subtracted* from, London Bridge tides, according as the establishment of the port at the place is *later* or *earlier* than that at London Bridge. Thus the establishment of the port at Aberdeen Bar is 1^h 11^m, and at London Bridge 2^h 7^m; the difference is 0^h 56^m, and the Aberdeen tide precedes that at London: therefore, by *subtracting* 0^h 56^m from the London Bridge tides, we obtain the Aberdeen tides in *mean time*. On February 23, 1841, the first high water at London Bridge occurs at 3^h 29^m, which being diminished by 0^h 56^m, gives 2^h 33^m for the corresponding tide at Aberdeen, and so for other places.

Table showing the Correction required on account of Second Differences in finding the Greenwich Time corresponding to a reduced Lunar Distance. (Page 554.)

The use of this Table has been sufficiently explained, by the Examples given at page 577.

Tables for determining the Latitude by Observations of the Pole Star out of the Meridian. (Pages 555 to 557.)

These Tables serve to determine the Latitude from an observation of the Altitude of the Pole Star out of the Meridian. The method of using them is as follows:

From the observed altitude, when corrected for the error of the instrument, refraction, and dip of the horizon, subtract 1'.

Reduce the Mean Time of Observation at the place to the corresponding Sidereal Time, by the Table given at page 558. (See *Tables of Time Equivalents*, following this article.)

With the Sidereal Time found, take out the *first correction*, with its proper sign. If the sign be +, the correction must be *added* to the reduced altitude; but if it be —, it must be *subtracted*: in either case the result will give an Approximate Latitude.

With this Approximate Latitude and the Sidereal Time of observation, take out the *second correction*, and with the day of the month and the same Sidereal time, take out the *third correction*. These two corrections *added* to the Approximate Latitude, will give the Latitude of the place,

Example: On March 6, 1841, in Longitude 37° W. at $7^{\text{h}} 43^{\text{m}} 35^{\text{s}}$ Mean Time, suppose the altitude of the Pole Star, when corrected for the error of the instrument, refraction, and dip of the horizon, to be $46^{\circ} 17' 28''$: Required the latitude.

Mean Time	- - - - -	$7^{\text{h}} 43^{\text{m}} 35^{\text{s}}$	
Diff. Long. (37°) in time	- - - - -	$2^{\text{h}} 28^{\text{m}} 0^{\text{s}}$	
Greenwich Mean Time	- - - - -	$10^{\text{h}} 11^{\text{m}} 35^{\text{s}}$	
Sidereal Time at Greenwich Mean Noon	- - - - -	$22^{\text{h}} 56^{\text{m}} 11^{\text{s}}$	
Mean Time at Place	- - - - -	$7^{\text{h}} 43^{\text{m}} 35^{\text{s}}$	
Acceleration (Tab. page 558) for $10^{\text{h}} 12^{\text{m}}$	- - - - -	$1^{\text{m}} 41^{\text{s}}$	
Sidereal Time of Observation	- - - - -	$6^{\text{h}} 41^{\text{m}} 27^{\text{s}}$	
Corrected Altitude	- - - - -	$46^{\circ} 17' 28''$	
Subtract	- - - - -	$1^{\circ} 0'$	
Reduced Altitude	- - - - -	$46^{\circ} 16' 28''$	
With Argument $6^{\text{h}} 41^{\text{m}} 27^{\text{s}}$, First Correction	- - - - -	$- 0^{\circ} 8' 36''$	
Approximate Latitude	- - - - -	$46^{\circ} 7' 52''$	
Arguments, $46^{\circ} 16'$ $6^{\text{h}} 41^{\text{m}}$	} Second Correction	$+ 1^{\circ} 16'$	
Arguments, March 6, 1841. $6^{\text{h}} 41^{\text{m}}$	} Third Correction	$+ 1^{\circ} 31'$	
Latitude of the place	- - - - -	N. $46^{\circ} 10' 39''$	

which agrees with an actual trigonometrical computation.

The *Tables of Time Equivalents*, given at pages 558 to 561, are useful for converting Mean Time into Sidereal Time, and Sidereal into Mean Time, agreeably to the example annexed to each table. They will serve also for Tables of Acceleration and Retardation, by taking the difference between each argument and its equivalent. Thus, in the Table at pages 558 and 559, the *excess* of the sidereal time equivalents above the arguments of mean time show the *acceleration* of sidereal on mean solar intervals; and in the Table at pages 560 and 561, the *defect* of the mean time equivalents, as compared with the arguments of sidereal time, indicate the *retardation* of mean on sidereal intervals.

The concluding Table, at pages 562 to 566, contains the *Latitudes and Longitudes of the principal Observatories*. This Table has already been considerably improved, and will, it is hoped, be gradually perfected by communications from each astronomer, of the latest and most accurate determination of his geographical position.

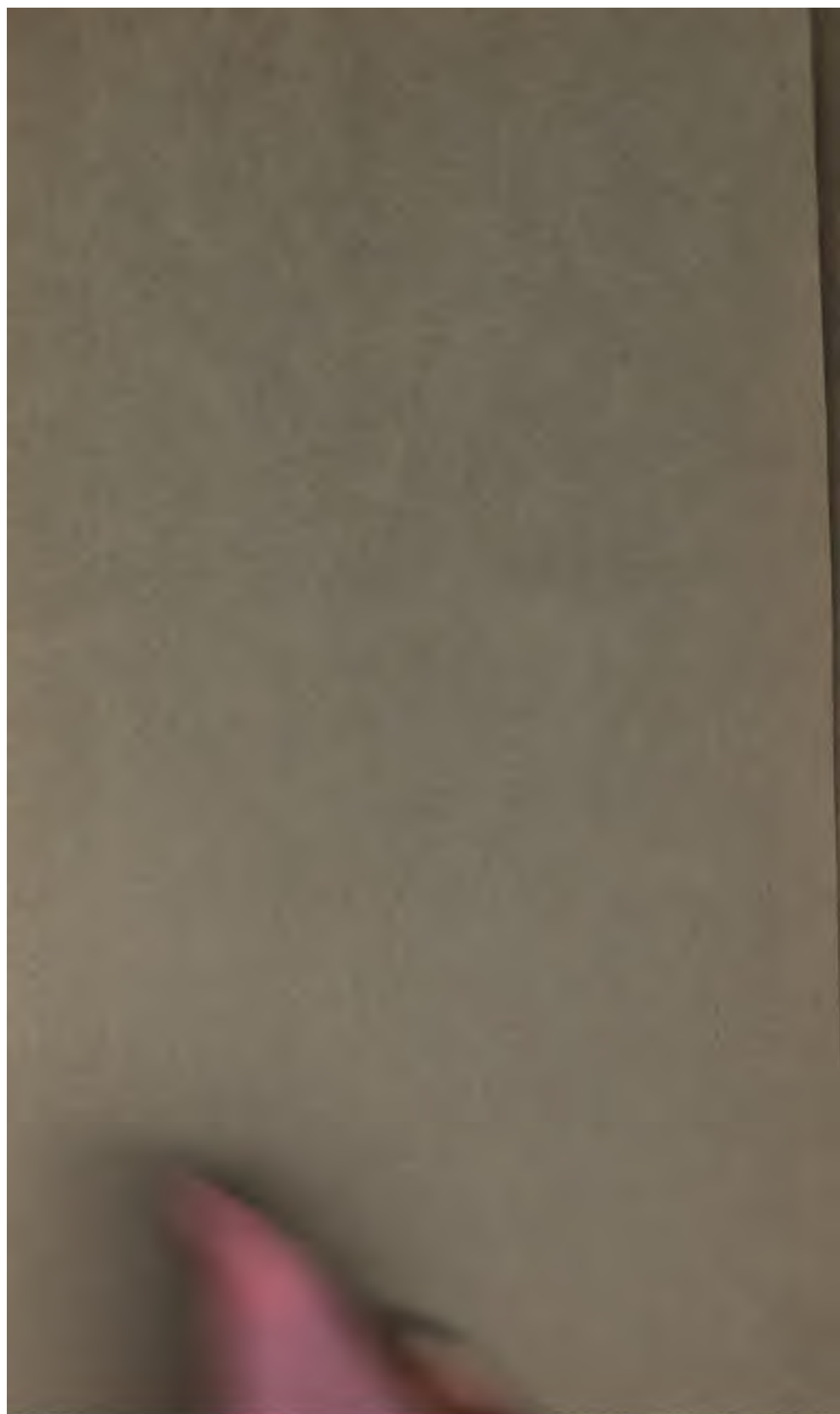
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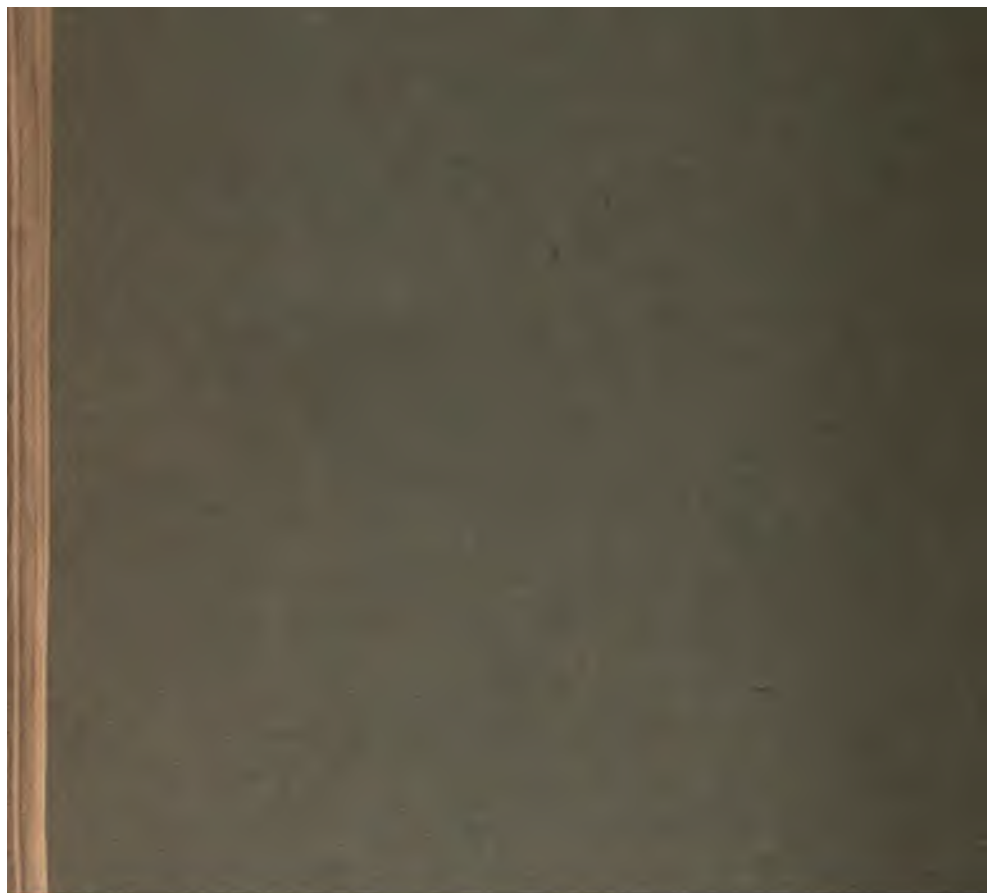
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